UK Government

Bureau of Energy Efficiency
Ministry of Power, Government of India

Knowledge Exchange Platform
Transmitting Knowledge through Best Practices

ASPIRE PROGRAMME

Accelerating Smart Power & Renewable Energy in India

Sectoral Workshop on

BEST PRACTICES IN ENERGY EFFICIENCY IN TEXTILE SECTOR

A PATH FOR DECARBONISATION

8th December 2022

Hosted by:
Raymond Limited
Chhindwara, Madhya Pradesh, India

SUMMARY REPORT

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About ASPIRE Program

Accelerating Smart Power and Renewable Energy in India (ASPIRE) is a bilateral program implemented by Foreign Commonwealth and Development Office, Government of UK in association with Ministry of Power and Ministry of New and Renewable Energy, Government of India. KPMG is the lead delivery partner for the ASPIRE programme. Idam Infrastructure Advisory Private Limited (India) and Carbon Trust (UK) are the key consortium members.

ABBREVIATIONS

AHF	Active Harmonic Filter
ASPIRE	Accelerating Smart Power and Renewable Energy in India
BEE	Bureau of Energy Efficiency
DCs	Designated Consumers
DEEP	Demonstration of Energy Efficiency Project
EE	Energy Efficiency
EnMS	Energy Management System
ESCerts	Energy Saving Certificates
FCDO	Foreign Commonwealth and Development Office
GESI	Gender Equality Social Inclusion
GHG	Greenhouse gases
HRS	Heat Recovery System
IEED	Industrial Energy Efficiency and Decarbonisation
KEP	Knowledge Exchange Platform
MEE	Multi Effect Evaporator
MT	Metric Tonnes
$MTCO_2e$	Million Tonnes of Carbon Dioxide Equivalent
MTOE	Million Tonnes of Oil Equivalent
NMEEE	National Mission on Enhanced Energy Efficiency
PAT	Perform Achieve and Trade
RE	Renewable Energy
RF	Radio Frequency
TFH	Thermic Fluid Heater
UKFT	UK Fashion & Textile

BACKGROUND

Indian textile industry contributes ~**2%** to the national GDP and ~**7%** of industry output in value terms. India accounts for ~**4%** of the global trade in textiles and apparel. The domestic textiles & apparel industry stood at ~**INR 13,000 billion** (GBP 130 billion) in 2021 and employs over 45 million people directly and 100 million people in allied industries, making it the **2nd** largest industry by manpower. Textile industry in India includes a wide range of segments – from traditional handloom & handicrafts to cotton, wool and silk across both organised and unorganised textile industry. The organised textile industry is marked by its use of capital-intensive technology for mass production and includes apparel manufacturing, spinning, weaving, processing, etc. A total of 163 large textile units are covered under the BEE's Perform Achieve and Trade (PAT) scheme, cumulatively accounting for ~**2.88 MTOE** of energy consumption, ~**9.27** $MTCO_2e$ of emissions, offering energy-saving potential of 0.234 MTOE. Leading textile industries in India have announced several initiatives as part of their decarbonisation commitments.

Building on this, a one-day sectoral workshop was jointly organised by FCDO and Bureau of Energy Efficiency (BEE) with the support of Raymond Ltd. The sectoral workshop on "**Best Practices in Energy Efficiency & Decarbonisation in Textile Sector**" was organised at Raymond Ltd.'s unit in Chhindwara, Madhya Pradesh on 8th December 2022. The workshop covered various aspects of PAT scheme, new emerging technologies (e.g., waterless dyeing) in the areas of energy efficiency and decarbonisation. During the workshop, the stakeholders deliberated on best practices, technologies and policy interventions required to accelerate decarbonisation of textile sector which is both resource and energy intensive.

Objective of the Workshop

- Share best practices/ technologies for enhancing Industrial Energy Efficiency and Decarbonisation (IEED) and identify learnings from the UK experience
- Identification of new emerging IEED technologies (e.g., waterless dyeing) available globally including from the UK
- Apprise stakeholders on the impact of the PAT scheme and IEED measures adopted across spinning, weaving and processing units covered under the textile sector

Highlights

70+
Participants from India and UK

3+
INTERACTIVE SESSIONS

Active participation from BEE, industrial organisations and technology providers from India and UK incl. senior officials and executives

2 WOMEN SPEAKERS

INAUGURAL SESSION

(L – R) Mr. Nitin Shrivastava, Mr. Ramit Malhotra, Ms. Sanyukta Das Gupta, Dr. Ashok Kumar, Mr. Harish Chatterjee, Mr. Surendra R Tiwari, Mr. Balawant Joshi, Mr. K. K. Chakarvarti

Speakers

Dr. Ashok Kumar

Deputy Director General, BEE

Ms. Sanyukta Das Gupta

Senior Adviser-Smart Power, FCDO, British High Commission

Mr. Harish Chatterjee

Vice President – Textile Manufacturing, Raymond Ltd.

Mr. Nitin Shrivastava

Works Director, Raymond Uco Denim, Yavatmal

Mr. Surendra R Tiwari

Works Director, Raymond Chhindwara

Mr. Ramit Malhotra

Director, KPMG India (ASPIRE Team)

Mr. Balawant Joshi

Managing Director, Idam Infra, (ASPIRE Team)

Key Takeaways

- Textile and fashion sector accounts for ~**5%** of global greenhouse gas emissions[1]
- The emissions intensity per unit of output of textile sector is **second highest** among the energy intensive sectors covered under BEE's PAT scheme
- Addressing Indian textile industry's emission intensity would play a key role in aiding India's efforts to achieve net zero emissions by 2070
- Textile sector is both resource and energy intensive (consumes significant thermal and electrical energy)
- Leading textile manufacturing industries in India have announced their emission reduction targets/ sustainability goals and have adopted various IEED measures to achieve the same. Some of the commitments include:
  - **Raymond UCO Denim** - target of a minimum **60%** GHG emissions reduction by 2025 (with 2016 as baseline)
  - **Arvind Ltd.** - target of **15%** reduction in specific GHG emission by **2022** w.r.t 2017 levels along with switching 20% of energy portfolio to renewable sources
  - **Welspun India Ltd.** - recently committed to the Science Based Targets initiative (SBTi) of Net-Zero Standard & Business Ambition for 1.5 °C to mitigate its GHG emissions'
- Decarbonisation of the textile industry can be enabled through focus on the following:
  - Switching to Renewable Energy (RE)
  - Effluent treatment/ waste management
  - Advanced waste heat recovery systems
  - Resource efficiency
  - Adoption of new and emerging technologies, e.g., waterless dyeing, digital dyeing, supercritical CO_2 dyeing etc.
- Raymond Ltd. has made significant progress in IEED through adoption of measures such as use of biomass in their boilers, waste heat recovery systems, IoT, digitalisation, etc.

[1] World Economic Forum: Net-Zero Challenge - The supply chain opportunity, January 2021

TECHNICAL SESSION I

IMPACT OF BEE'S PAT SCHEME AND OTHER INITIATVES

Speakers

Dr. Ashok Kumar
Deputy Director General, BEE

Mr. Ajitesh Upadhyay
Textile Sector Expert, BEE

Key Takeaways

- PAT scheme is a flagship scheme of BEE under the National Mission on Enhanced Energy Efficiency (NMEEE) that offers ESCerts - a regulatory instrument with an associated market based mechanism to enhance energy efficiency measures in energy intensive industries
- PAT Cycles I-III (2012-2020) implemented by BEE have resulted in energy savings of **24.34 MTOE** and emission reduction of **105.86 MTCO$_2$e** across 13 covered large energy-intensive industrial sectors
- **163 textile industries** covered under PAT scheme cumulatively consume **2.88 MTOE** of energy and emit **~9.27 MTCO$_2$e**
- Reduction of ~**0.13** TOE in average specific energy consumption was realised through an investment of ~**INR 98 Crores** by 34 energy intensive industries under PAT Cycle III
- The Government of India undertook the following initiatives to address the issue of significant price fluctuations of ESCerts during PAT Cycle I:
  - Validity of ESCerts extended till the time they are not sold
  - Floor price of ESCerts fixed at 10% of the price of one TOE of energy consumed for PAT Cycle II i.e. INR 1,804

- Proposed **Institutional of Banking ESCerts** in Energy Conservation (Amendment) Bill, 2022 to ensure the **liquidity of ESCerts** in the market – any other person can purchase ESCerts or carbon credit certificates on a voluntary basis *(The Bill has now been passed by both the houses of Indian Parliament)*
- BEE is undertaking the DEEP (Demonstration of Energy Efficiency Project) initiative to implement cutting-edge energy efficiency technologies and enable widespread adoption of energy efficient measures in the DCs (Designated Consumers)
- BEE has established a **facilitation centre** to encourage and scale-up implementation of energy efficiency measures across the nation through support in accessing project finance
- BEE is in the process of developing **strategies** to enable wider adoption of **cleaner fuels** by industries

TECHNICAL SESSION II
SHARING OF BEST PRACTICES BY TEXTILE PLANTS

Speakers

Mr. Sumant Kundu
Raymond Ltd.,
Chhindwara

Mr. Santosh Maloniya
Vardhman Fabrics

Mr. Avinash
Raymond Ltd., Khadki

Mr. Akhil Jain
Raymond Ltd., Khadki

(L-R) **Mr. Keshav Rajegore, Mr. Ajit Patil**
Century Rayon, Grasim Industries

Mr. Bhupendra Rajput
Raymond Ltd., Jalgaon

Key Takeaways

- Key IEED measures adopted by Raymond Ltd.'s Chhindwara unit include:
  - Implemented **waste heat recovery** systems in various processes including stenters, dyeing, compressor room, to recover heat from flue gases, effluents and hot oil respectively
  - **IoT and digitalisation**-based solutions for effective monitoring of machine level parameters including energy monitoring & analytics and auto WhatsApp reports to concerned officials for deviation monitoring and of critical parameters
  - Implementation of **advanced compressed air system** with feature of **air pressure band separation** (low, medium and high) along with deployment of energy-efficient compressors

- Boiler & Thermopac - use of rice husk (biomass) in boiler and thermopac along with upgradation of old thermic fluid heaters with **Auto Fuel Draught System**
- Use of efficient aerodynamic fans and installation of Active Harmonic Filter (AHF)

- Energy conservation measures adopted by Vardhman Fabrics include:
  - **Renewable energy** installation: (I) **7.5 MW** ground-mounted solar power plant, (ii) **1.6 MW** rooftop solar power plant, (iii) solar kitchen (41280 kcal/hr), (iv) Solar water heater of 1000 Ltrs, and (v) Biogas plant
  - Energy efficient machine technology: (i) salt-less dyeing machine, (ii) Air Cooled Thermic Fluid Recirculation Pump, (iii) Condensate Recovery through Flash Jet Pump Technology, etc.
  - Use of e-glass insulation in place of conventional insulation to:
    - Reduce heat loss due to convection and radiation
    - ~**20%** savings in coal consumption (~650 MT savings per year in steam generation and ~1,887 MT savings per year in thermic oil heating)
  - Improvement of HP boiler efficiency through replacement of boiler air nozzles resulted in optimised air usage and reduction of 1369 **$MTCO_2e$** per year
  - Use of rice husk as feed for biofuel

- Raymond, Khadki (Gujarat) has undertaken the following IEED measures including its efforts to ramp up RE share to 52% of overall electricity consumption by end of 2022-23:
  - Installed 640 kW rooftop solar plant at their premises
  - Procurement of **3+** MW wind power through a bilateral agreements
  - Pioneer in Gujarat to sign a bilateral agreement in May'22 for procurement of 3.15 MW of wind-solar hybrid power
  - Replaced old steam-based roof-top chillers (TFO) with new-generation electric chillers considering the increase in cost of coal coupled with efforts to reduce carbon emissions

- Decarbonisation measures undertaken by Raymond Ltd., Kolhapur include:
  - Renewable energy initiatives - installation of 1 MW solar (~5.5 % of total electricity consumption is from solar)
  - Adoption of Avitera Dyes – gradual shift from Vat dyes to Avitera dyes resulting in reduction in consumption of water by 27.03%, power by 29.74%, and steam by 47.9%
  - Installation of Radio Frequency (RF) Dryer in place of rapid dryer, installation of automatic blow down and heat recovery system, installation of sludge dryer, and use of the autonomous mobile robot for yarn shifting

- Century Rayon Ltd. (unit of Grasim Industries Ltd.) is in the process to replace 74,322 MT of coal with biomass fuel that would result in emission reduction of ~**128,000 $MTCO_2e$** per annum

TECHNICAL SESSION III

SHARING OF BEST PRACTICES BY INDUSTRIES AND TECHNOLOGY SUPPLIERS

Speakers

Mr. Paul Alger
UKFT Association, UK

Ms. Dee Roche
Alchemie Technology, UK

Ms. Catherine Bottrill
Pilio Technology, UK

Mr. Kyle Rossi
MRI eSight, UK

Mr. Asim Majid
Smartia, UK

Mr. Harsh Vardhan
Centrica, UK

Mr. Ashwin K. P.
Promethean Energy

Mr. Kumar Jadhav
Godrej Electricals & Electronics

Mr. Mohd Areeb
Xero Energy

Mr. Raju Namburi
Bridgethings

Mr. Nishant
Trident Group

Mr. Anand Vijayakumar
FluxGen, Sustainable Technologies

Mr. Khursheed Hussain
ARMEC Group

Mr. Hidhay K
Systel Energy Solutions (India) Pvt. Ltd.

Key Takeaways

- UK textile sector produces materials worth ~**£5.8 billion** every year through **4,200+ businesses** and employs 64,000+ people
- UK textile sector offers some key technologies, solutions and best practices in areas such as new fibre technologies, waterless-, low energy- and digital- dyeing, digital technologies such as IoT and AI-based solutions for industrial energy optimisation
- Strengths and capabilities of the UK textile sector can be leveraged to facilitate a rapid transition of the Indian textile sectors' journey of net-zero
- Alchemie Technology's 'Endeavour' (waterless, low-energy textile dyeing) and 'Novera' (energy saving non-contact finishing) offer potential of ~**95% savings in water** consumption and ~**85% energy savings**, with a payback period of up to 2 years
- UK-based multinational fashion retailer "Marks & Spencer" has committed to reducing its Scope 3 GHG emissions by **13.3 MTCO$_2$e by 2030** (from 2017 levels)
- Centrica, UK offers its patented technology driven by **wireless sensors & advanced analytics** including power radar software to enable machine level energy management that would aid in increasing operating margins and driving sustainability
- UK based MRI esight and Smartia offer **IoT and AI-based** technology solutions for enhancing energy management
- Promethean Energy, India presented its **heat recovery systems** for various processes including dye effluent, air compressors, stenters etc. with minimal carbon footprint, simple maintenance and complete online monitoring with alarm system
- Bridgethings, India offers **cloud-based data analytics** platform for better monitoring & control on consumption patterns of the textile plant to improve efficiency
- FluxGen India offers **AI-based water management system** for identifying water leaks, overuse, and wastes
- Other key Indian IEED technology providers including Systel Energy Solutions, offered advanced compressed air systems with smart monitoring for energy optimisation

CONCLUDING SESSION

Speakers

(L-R) Mr. K. K. Chakarvarti, Ms. Sanyukta Das Gupta, Mr. Harish Chatterjee

Key Takeaways

- Enhancing **energy efficiency and decarbonisation** of industries, particularly the **textile** sector, is crucial to enable the country in its energy transition and to achieve its sustainability/ net-zero targets
- ASPIRE programme intends to support large energy-intensive industries in the adoption of low-carbon technologies and solutions through collaboration with global technology suppliers including from the UK
- Participants expressed interest for various technologies and solutions presented during the workshop with a keen interest for Alchemie Technology, UK's 'Endeavour' **(waterless low-energy textile dyeing)** and 'Novera' **(energy saving non-contact finishing)** that offer significant potential for reducing water and energy consumption
- Decarbonisation of the textile industry can be accelerated through adoption of the following measures/ technologies that offer significant potential:
  - Adoption of renewable energy for majority of electricity consumption
  - AI-based water, energy, and steam management systems
  - Deploy waste heat recovery systems across different processes
  - Waterless/ chemical-free dyeing techologies

FEEDBACK FROM THE PARTICIPANTS

- About **90%** of the participants responded that they were more than satisfied with the outcomes of the workshop (provided **8+** rating on a scale of 10)
- About **90%** of the participants rated the quality and content of the delivery as more than satisfactory (provided **8+** rating on a scale of 10)
- The 'Technical Session III – Sharing of best practices by industries and technology suppliers' was highly appreciated by the participants
- Many participants recommended more similar workshops for the textile sector
- About **90%** of participants expressed interest for follow-on focused discussions with the participating UK technology providers for enhancing energy efficiency and decarbonisation
- Participants expressed their interest to know more about following IEED technologies from the UK:
  - Waterless dyeing technology
  - Waste heat recovery and utilisation output
  - Energy, data management, and reporting solutions
  - Recycling technology and process
- Women account for ~**10-25%** of total employee strength in most of the participating organisations
- Some of the initiatives to promote Gender Equality and Social Inclusion (GESI) undertaken by participating organisations include:
  - Preference to women and people from marginalised group in recruitment process
  - Target to employ at least **50%** of total staff strength from **female and marginalised categories**
  - GESI related awareness campaigns and events

> **"The workshop offered new learnings about energy efficiency & decarbonisation in Textile industry"**
>
> *- Mr. Makarand Despande, Assistant Manager, Raymond Limited*

> **"An insightful event that provided a platform for sharing of best practices and new emerging technologies"**
>
> *- Mr. Ajit Patil, Senior General Manager, Grasim Industries Ltd. Unit Century Rayon*

> **"Insightful workshop offering greater understanding on best practices adopted by various textile industries promoting innovation and new ideas"**
>
> *- Mr. Mohd Areeb, Area Sales Manager, Xero Energy Engineering Solutions Pvt. Ltd.*

CONCLUSION

The response to the Sectoral Workshop has been positive with participation of key stakeholders including senior officials from BEE (Ministry of Power), executive leadership and key officials of leading Indian textile industries, technology providers from the UK and India. The workshop appears to have served its purpose of providing a platform for national and international firms to share their best practices and technologies for enhancing IEED measures in the Indian textile sector. It is expected that this workshop would have a demonstrable and long-lasting on-field impact in due course of time. Further, to keep up the momentum, the following activities are envisaged under ASPIRE to enable wider adoption of IEED measures and technologies by Indian textile industries to achieve their net-zero targets:

- Organise a national level workshop and launch the rejuvenated KEP portal with database of proven/ emerging global technologies, technology providers and financial institutions
- Provide handholding support including B2B interactions/ webinars to large energy-intensive industries (incl. textile sector) to support in identifying technologies & solutions, and technology suppliers to enhance IEED measures
- Organise cross-sectoral workshops, national-level-policy roundtable on similar lines for key industrial sectors including textile sector in collaboration with global technology suppliers including from the UK
- Create more discussion forums to facilitate exchange of knowledge and information that will aid in the formulation of policies

For more information please contact:

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KPMG in India
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ANNEXURE
ATTENDANCE SHEET

S.No.	Name	Designation	Organisation
1	Mr. Vijayender Kumar*	Head Engineering	Trident Ltd
2	Mr. Nishant	Section In charge- Solar	Trident Ltd
3	Mr. Vishvendra Singh	Section In charge- Utilities	Trident Ltd
4	Mr. Johnson Daniel	(NMEEE & DSM) Division	Energy Management Centre - Kerala
5	Mr. Subhash Babu B. V	Registrar	Energy Management Centre - Kerala (SDA)
6	Mr. G Srinivas	Energy Manager	Suryalakshmi Cotton Mills Ltd
7	Mr. Satish N Patel	Deputy Manager Electrical	Raymond Limited Vapi
8	Mr. Abhinash Saikia	Assistant Manager Mechanical	Raymond Limited Vapi
9	Mr. Suresh Babu B. V	Founder	OTTOTRACTIONS
10	Mr. Mahendra P. Khante	Sr. Vice President (E & I)	VARDHMAN FABRICS
11	Mr. Santosh Maloniya	Manager (E & I)	VARDHMAN FABRICS
12	Mr. Akhil Jain	Manager	Raymond Luxury Cottons Limited, Kolhapur
13	Mr. Nilesh Chougale	Executive	Raymond Luxury Cottons Limited, Kolhapur
14	Mr. A. MURUGAKANI	AGM-Electrical	LOYAL TEXTILE MILLS LTD
15	Mr. Ashwin	CEO	Prometheanenergy
16	Mr. Prasanna Amberkar	Mechanical Maintenance Engineer	Godrej Electricals & Electronics
17	Mr. Aleem Shamasti	Plant Incharge	Raymond Ltd.,Jalgaon
18	Mr. Pramod Narkhede	Chief Engineer	Raymond Ltd.,Jalgaon
19	Mr. Bhupendra Rajput	Manager – Electrical Engg	Raymond Ltd., Jalgaon
20	Mr. Milan Rana	Manager – Mechanical Engineering	Raymond Ltd., Jalgaon
21	Mr. Srinivasa Raju Namburi	Director	Bridgethings
22	Mr. Mohd Areeb	Area Sales Manager - North India	Xero Energy
23	Mr. Jayant Joshi	Director	Orgosynth Chemicals Pvt.Ltd
24	Mr. Gajraj Singh Narde	Manager-Engg	Raymond Luxury Cottons Limited, Amravati

S.No.	Name	Designation	Organisation
25	Mr. Sumeet Banerjee	Asst. Manager- Engg	Raymond Luxury Cottons limited, Amravati
26	Mr. Kumar Jadhav	Associate Manager	Godrej Electricals & Electronics
27	Mr. Ajit Patil	Sr. GM (BH, PH & inst.)	Grasim Industries Ltd. Unit Century Rayon
28	Mr. Keshav Rajegore	Designated Energy Manager	Grasim Industries Ltd. Unit Century Rayon
29	Mr. Yogesh Bondre	Manager (Mech.)	Raymond UCO Denim Pvt. Ltd
30	Mr. Ravindra Rade	Dy. Manager (Elect.)	Raymond UCO Denim Pvt. Ltd
31	Mr. Akshay Admane	Sr. Manager (Elect. & Inst)	Raymond UCO Denim Pvt. Ltd
32	Mr. Hidhay K	Managing Director	Systel Energy Solutions India Private Limited
33	Mr. Ajit Basha	Asst. Manager (Elect.)	Raymond Ltd., Textile Division - Chhindwara
34	Mr. Ranjit Singh	Asst. Manager (Elect.)	Raymond Ltd., Textile Division - Chhindwara
35	Mr. Ketan Andankar	Asst. Manager (Elect.)	Raymond Ltd., Textile Division - Chhindwara
36	Mr. Makarand Deshpande	Asst. Manager (Inst.)	Raymond Ltd., Textile Division - Chhindwara
37	Mr. Rakesh Upadhyay	Dy. Manager (Mech.)	Raymond Ltd., Textile Division - Chhindwara
38	Mr. Abhilash Dubey	Executive (Mech.)	Raymond Ltd., Textile Division - Chhindwara
39	Mr. Sachin Ghatode	Dy. Manager (Mech.)	Raymond Ltd., Textile Division - Chhindwara
40	Mr. Sumant Kumar Kundu	Sr. Manager (Mech)	Raymond Ltd., Textile Division - Chhindwara
41	Mr. Chandrakant Chaudhary	Dy. Manager (Elect.)	Raymond Ltd., Textile Division - Chhindwara
42	Mr. Parag Wandile	Dy. Manager (Inst.)	Raymond Ltd., Textile Division - Chhindwara

S.No.	Name	Designation	Organisation
43	Mr. Rintu S Das	DGM Engg	Raymond Ltd., Textile Division - Chhindwara
44	Mr. Mangesh D kale	AGM- Power Plant & Utility	Prasol chemical ltd
45	Mr. Khursheed Hussain	Sr. Manager Sales	ARMEC Group
46	Mr. Raju Yadav	Sr. Manager Sales	ARMEC Group
47	Mr. Anand Vijayakumar	Technical Sales Specialist	FluxGen Sustainable Technologies
48	Mr. Surendra Tiwari	Works Director	Raymond Chhindwara
49	Mr. Balwant Joshi	Managing Director	Idam Infra
50	Mr. Rajiv Shukla	Executive Director	Idam Infra
51	Ms. Dhaarna Rawat	Analyst	Idam Infra
52	Mr. Anurag Singh Sirola	Manager	KPMG
53	Mr. Ramit Malhotra	Director	KPMG
54	Dr. Ashok Kumar	Deputy Director General	Bureau of Energy Efficiency
55	Mr. Ajitesh Upadhya	Textile Sector Expert	Bureau of Energy Efficiency
56	Mr. K.K. Chakarvarti	Sr. Advisor	Knowledge Exchange Platform
57	Mr. Amit Saini	Asst Manager, Electrical	Raymond Vapi
58	Mr. Harish Chatterjee	Vice President -Textile Manufacturing,	Raymond Ltd.Thane
59	Ms. Sanyukta Das Gupta	Senior Adviser - Smart Power	FCDO, British High Commission, New Delhi
60	Mr. Nitin Shrivastava	Works Director	Raymond UCO P Ltd, Yevatmal
61	Mr. Ajay Baldua	Gen. Manager-Works	Raymond Ltd., Vapi
62	Mr. Ketan Patel	Asst Manager, Mechanical	Raymond Ltd., Vapi
63	Mr. Milind Chittawar	C E O	SEE – TECH Solutions PVT LTD
64	Mr. Bandu Jamgade	Field Engineer	SEE – TECH Solutions PVT LTD
65	Mr. Shailesh Mahalle	Field Engineer	SEE – TECH Solutions PVT LTD
66	Mr. Rakesh Gupta	Consultant	SEE – TECH Solutions PVT LTD
67	Mr. Manoj Hurkat		Pee Vee Textiles Ltd
68	Mr. V T Dhote		Pee Vee Textiles Ltd
69	Mr. J. K. Sharma	GM Works	
70	Mr. Anand V	Director	Hi-tech facility
71	Mr. AC Verma	Exe. Director	Hi-tech facility

S.No.	Name	Designation	Organisation
72	Mr. Harsh Vardhan	Lead IoT	Hi-tech facility
73	Mr. Vijay Mudgal*	Manager	Idam Infra
74	Mr. Bhushan Patil*	International Funder Associate	Carbon Trust
75	Mr. Paul Alger*	Director of International Business Development	UKFT Association
76	Mr. Asim Majid*	Co-Founder and CCO	Smartia
77	Mr. Kyle Rossi*	Sales Director-Energy Management Solutions	MRI eSight
78	Ms. Dee Roche*	Chief Marketing Officer	Alchemie Technology
79	Ms. Catherine Bottrill*	CEO	Pilio

*Attended virtually