UK Government

G20 भारत 2023 INDIA

iDeeksha

Azadi Ka Amrit Mahotsav

Bureau of Energy Efficiency
Ministry of Power, Government of India

Accelerating Smart Power and Renewable Energy in India (ASPIRE)

IE01 – REJUVENATION OF KNOWLEDGE EXCHANGE PLATFORM

IE02 – INDUSTRIAL EE AND DECARBONISATION KNOWLEDGE AND TECHNOLOGY PARTNERSHIP

Presented by:
Balawant Joshi,
Managing Director
Idam Infrastructure Advisory (ASPIRE Team)

Programme Introduction & Architecture

2 Projects
Smart Power & Renewable Energy

7 Themes
Spread across two projects

£15.4 Mn
including GoI contribution of £7.7 Mn in kind & capital

2-year project
extension possibility of 1 year

Multiple Work Packages
Initiatives focused on center & in select states

	Smart Power Project Architecture			Renewable Energy Project Architecture		
Project Themes	**Electricity Distribution**	**Industrial Energy Efficiency**	**E-mobility Charging Infrastructure**	**Solar Energy**	**Off-Shore Wind Energy**	**Energy Storage & Green Hydrogen**

Work Packages with Central & select states (chosen among Andhra Pradesh, Himachal Pradesh, Telangana, Karnataka, Gujarat, Tamil Nadu, Delhi & Maharashtra)

Cross Cutting Activities	**Green Financing**			
	UK India Knowledge Forum / Investment Promotion			
	Gender and Social Inclusion			
Intermediate Outcomes	**Policy Products and Tools**	**Robust project pipeline**	**Commercial & Knowledge Partnership**	**Innovation**
Outcome	**Improved investment environment through policy adoption, investment mobilisation & enhanced knowledge and skills**		**New partnerships between India and international institutions**	

Impact

Increased investment to support energy security & economic growth that is inclusive, low carbon, supports poverty reduction & climate action
Increased trade, investment & relationships between India and UK

IE01- Rejuvenation of Knowledge Exchange Platform

Background

- As per BEE's National Strategy Plan, India's energy savings and emissions reduction potential till 2031 is estimated to be **87** Mtoe and **438** MT of CO2 (mtCO2) respectively.
- Industrial sector (including MSMEs) offers the highest potential i.e., ~ **55%** of the total energy savings and ~**42%** of total emissions reduction potential of the country.
- With seven PAT Cycles rolled out, energy intensive industries have already adopted various low hanging EE measures to achieve energy saving targets.
- Next set of opportunities for incremental Industrial Energy Efficiency and Decarbonization (IEED) require adoption of new and emerging low-carbon technologies and solutions.
- Consultations with various stakeholders highlighted lack of access/ information of various technologies and their providers as one of the key barriers to adoption of new IEED technologies/ solutions.
- In view of the above, **a knowledge sharing platform titled 'iDEEKSHA**' (Industrial Decarbonization and EE Knowledge Sharing Platform) **has been developed under the Accelerating Smart Power and Renewable Energy (ASPIRE)** Technical Assistance Program in joint collaboration with BEE.

About IDEEKSHA

- IDEEKSHA will serve as one stop shop for all energy efficiency and decarbonization needs of Indian energy intensive industries.

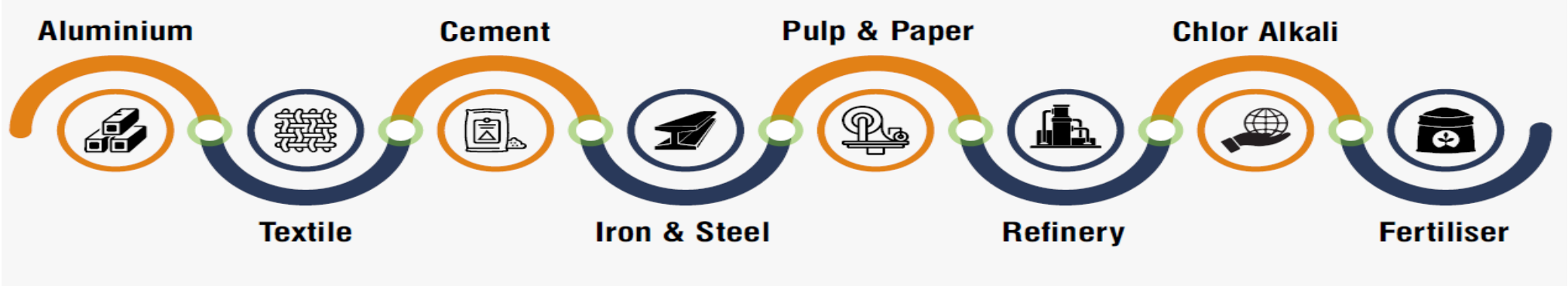


Fig: iDEEKSHA - Knowledge Sharing Platform

Key Features of IDEEKSHA

8 **Dedicated tab for GESI**

6 **Secure User Registration Process**

4 **Dedicated tab on Government of India's (GOI) Global Commitments**

2 **Events/ Workshops/ Study Tour/ Webinar Information**

7 **Robust system to ensure quality content**

5 **Subscription to Newsletters**

3 **One-stop shop for all IEED needs**

1 **Collaboration facility**

- Discussion Forum & Blog
- Sharing of Information
- Technology Collaboration

IDEEKSHA Portal

Click here to know more about IDEEKSHA

Click here to know about India's Global Commitment

Click here to get information about upcoming and past events

Click on 'Collaborate' to read blogs, participate in discussion forums and submit EoI, etc.

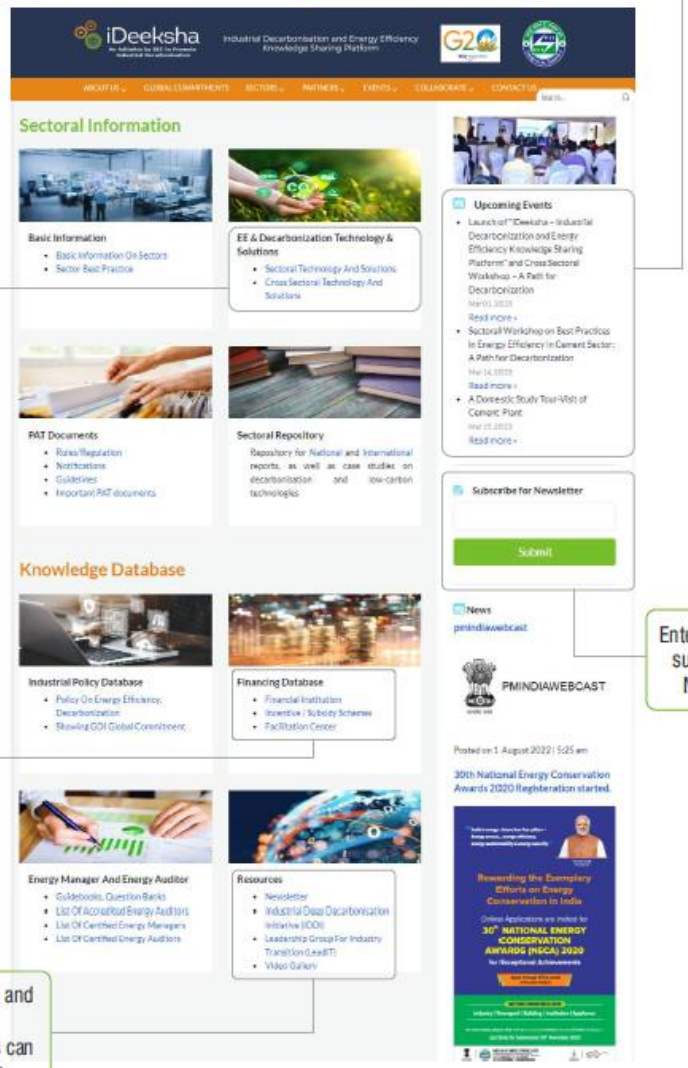
Click here to get information about sector specific information

Click here to share information of technologies, financial products, R&D, best practices etc. with KEP Secretariat

Click here to know about the various initiatives taken by industries for promoting GESI

Click here to know about sectoral and cross-sectoral technology and solutions

Click here to know about sectoral and cross-sectoral technology and solutions



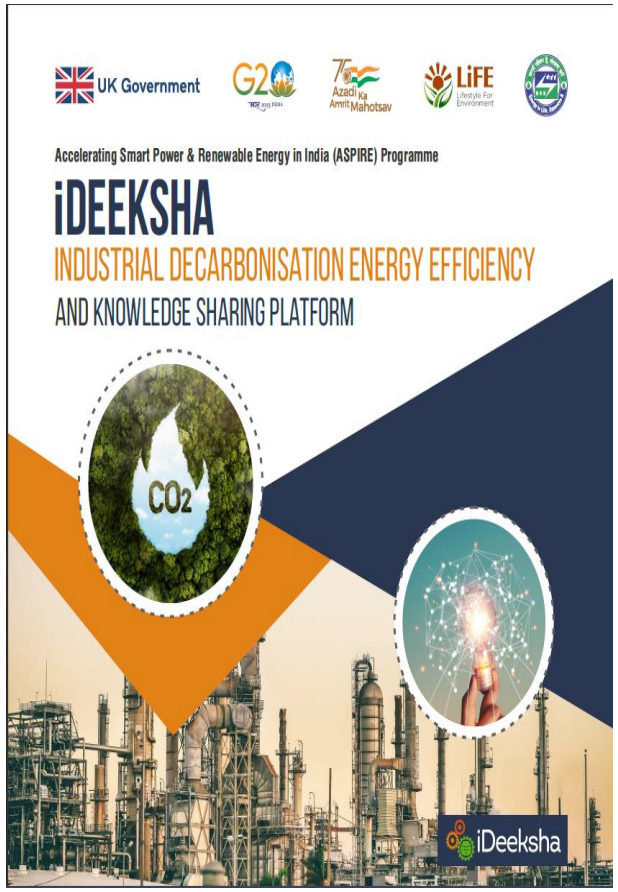
Enter email ID to subscribe for Newsletter

Click here to get database of Financing Institutions

Video Gallery, Newsletters and other Industrial Deep Decarbonisation initiatives can be accessed from here

https://www.ideeksha.in/

Launch of IDEEKSHA Portal and Newsletter



Launch of IDEEKSHA Portal, First Newsletter and Flyer

by Mr. R.K. Singh, Hon'ble Cabinet Minister (Power, New & Renewable Energy) on March 01, 2023

Three Sectoral Workshops under IDEEKSHA

Best Practices in Energy Efficiency and Decarbonisation in Aluminium Sector – A Path for Decarbonisation	Best Practices in Energy Efficiency and Decarbonisation in Textile Sector – A Path for Decarbonisation	Best Practices in Energy Efficiency and Decarbonisation in Cement Sector – A Path for Decarbonisation
Aditya Aluminium, Lapanga, Odisha / Nov 21, 2022	Raymond Limited, Chhindwara, MP / Dec 08, 2022	Radisson Hotel, Udaipur, Rajasthan / Mar 14, 2023
100+ participants from India and UK participated in the workshop	**70+** participants from India and UK participated in the workshop	**80+** participants from India and UK participated in the workshop
Three Technical Sessions covering 16 presentations (2 presentations from UK Technology & Solutions Providers)	**Three Technical Sessions covering 20 presentations (6 presentations from UK Technology & Solutions Providers)**	**Four Technical Sessions covering 18 presentations (7 presentations from UK Technology & Solutions Providers)**
The workshop helped in identifying three priority areas for the abatement of aluminium sector emissions: • Decarbonisation of electricity consumption (60% emission) • Decarbonisation of direct emissions from aluminium processing (25% emissions) • Recycling of aluminium scrap through improved sorting methods and resource efficiency (together offer the potential to abate 15% of the sector's emissions)	Decarbonisation of the textile industry can be accelerated through adoption of the following measures/Technologies: • 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 technologies	The workshop effectively showcased following innovative technologies that improve IEED measures: • CCU technology applications • Low energy drying for cement and mineral products • Next frontier of circular materials including supplementary cementing materials • Delta zero cement, IoT/AI based platform for cement production • Novel technology for carbon sequestration within concrete
Indian corporate have shown interest in following IEED technologies: • Techniques and technologies for enhanced waste heat recovery, especially from Kilns • Future of power plants including hydrogen fuel based • Advanced energy management systems	Large Indian corporates have shown keen interest in implementation of following UK technologies: • **Alchemie Technology,** 'Endeavour' (waterless low-energy textile dyeing) and 'Novera' (energy saving non-contact finishing) that offer significant potential for reducing water and energy consumption • **Centrica, UK's** IoT 4.0 real-time machine-level energy management system (driven by wireless sensors & advanced analytics) to improve operating margins and drive sustainability	Indian corporations have demonstrated a keen interest in the following IEED technologies: • Techniques and technologies for enhanced waste heat recovery • CCUS Technology • Advanced energy management systems • Recycling technologies and processes

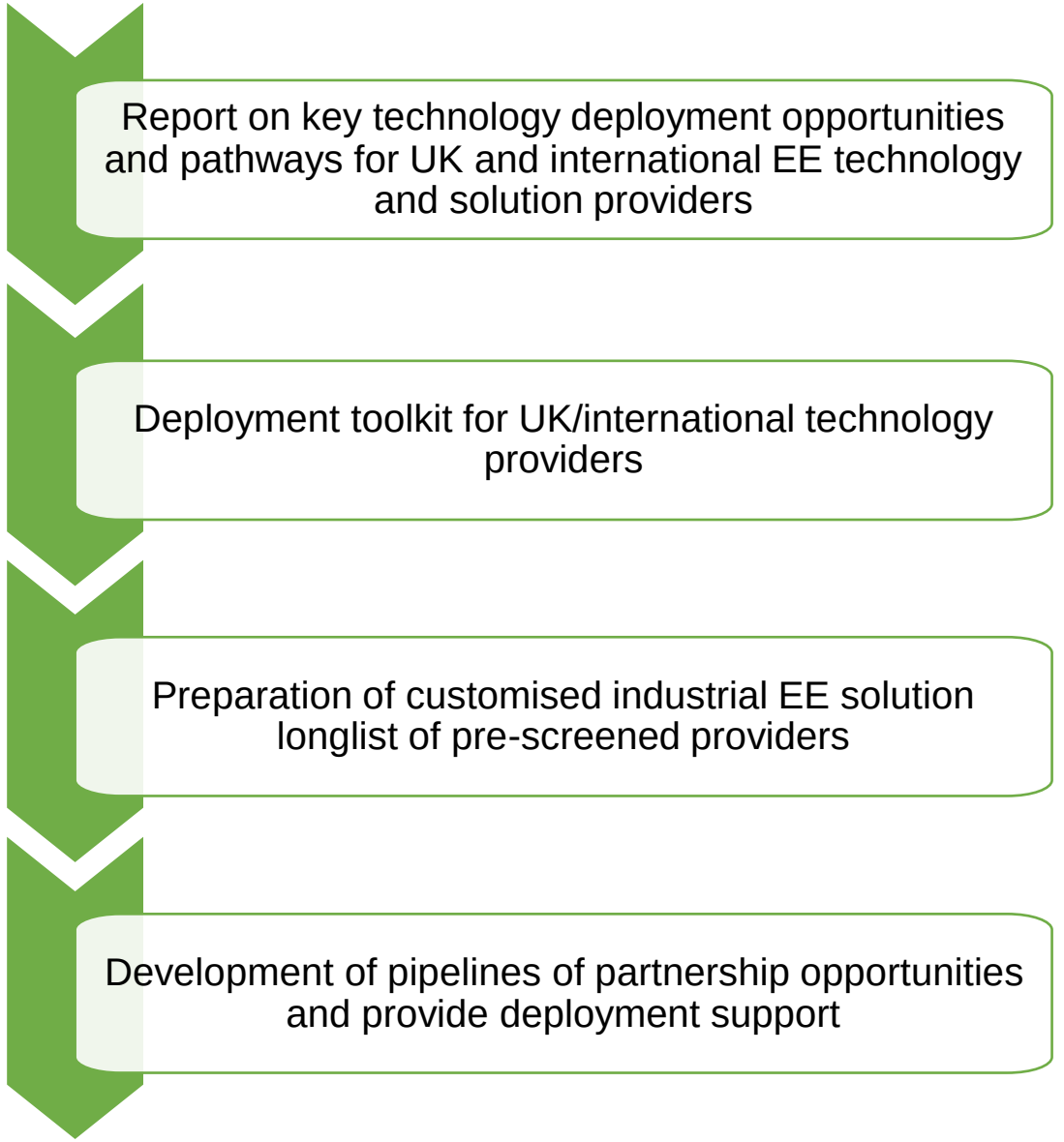
Three Study Tours under IDEEKSHA

Study Tour of Aditya Aluminium Plant, Lapanga, Odisha	Study Tour Raymond Textile Plant, Chhindwara, Madhya Pradesh	Study Tour Udaipur Cement Works Limited (UCWL), Udaipur, Rajasthan
Aditya Aluminium, Lapanga, Odisha / Nov 21, 2022	Raymond Limited, Chhindwara, MP / Dec 08, 2022	Udaipur Cement Works Limited, Udaipur, Rajasthan / Mar 15, 2023
50+ participants from Indian industry stakeholders visited the plant	**50+** participants from Indian industry stakeholders visited the plant	**40+** participants from Indian industry stakeholders visited the plant
Visited the following key areas of the plant: • Pot Room • Captive Power Plant • Smelting Plant	Visited the following key areas of the plant to understand various IEED measures implemented: • Waste Heat Recovery • Recombing Room • Worsted Spinning Room • Mending Room • Singeing Room	Visited the following key areas of the plant to understand various IEED measures implemented: • Solar PV Park – Phase I (7.6 MW) & Phase II (3.5 MW) • Floating Solar PV plant installed at UCWL mines. • Cement Control Room
Aditya Aluminium has adopted the following IT-based technologies: • Leveraging the power of **Energy Analytics Platform**, integrated with **Power BI with AI**, to harness the full potential of their data and drive meaningful insights. • Use of **Copper Insert Collector Bar** / Cathode (CuCB)	Raymond Limited has adopted the following IT-based technologies: • **IoT & Digitalisation** based solutions for effective monitoring of machine-level parameters including energy monitoring & analytics and auto WhatsApp reports to concerned officials • Use of efficient aerodynamic fans and installation of Active Harmonic Filter	UCWL has adopted the following IT-based emerging technologies: • IoT sensors for real-time condition monitoring of equipments. • AI-based "Advanced Process Control Suite" for kiln & mills optimization • Tracking of Vehicles by Ultra High Frequency • Online Particle Size Distribution system for mills
The upcoming green projects at Aditya Aluminium: • 100 MW green energy in power portfolio by 2024 • Dual firing arrangement in one boiler – 50% gas and 50% coal firing by 2024 • 10 MW floating solar installation by 2023	Key IEED measures adopted by Raymond Ltd.: • Implemented **Waste Heat Recovery** systems in various processes • Implemented **Advanced Compressed Air System** with a feature of **Air Pressure Band Separation** • Use of **Rice Husk** in boiler and thermopac along with upgradation of old thermic fluid heaters with **Auto Fuel Draught System**	UCWL has a target to be carbon neutral by 2040 by: • Improving blended cement by 20% (CO_2 reduction by 160 kg) • Increasing RE and EE in the total energy mix (CO_2 reduction by 30 kg) • Increasing use of **AFR** (Alternate Fuel Resources) & reducing coal by 15% (CO_2 reduction by 45%)

IE02- Industrial Energy Efficiency and Decarbonization Knowledge and Technology Partnerships

Background and Major Activities

- With multiple PAT Cycles, many low hanging EE opportunities have been exploited.
- The **next set of opportunities** require the **deployment of new technologies, through new approaches, investment and partnerships.**
- Over the past decade, experience from the UK has found that further progress on IEED requires targeted handholding and deployment-focused interventions supporting increased deployment of established and proven solutions.
- Under this work package, the activities will **catalyse the partnerships, investments and collaborations needed to accelerate this next phase of IEED solutions within key Indian industries**, which would improve new technology acceptance, build confidence, supply chain development and de-risk investment.



Thank You