energise
ENERGY INNOVATION
FOR A SUSTAINABLE ECONOMY

Alliance for an Energy Efficient Economy

ENERGISE 2020

Energy Innovation for a Sustainable Economy

11th – 13th February 2020, Hyderabad

Draft Agenda
with
Paper Presentation Schedule

PRE-DAY EVENT
(10th FEBRUARY, 2020)

Executive Discussion on Advancing the Intent of the India Cooling Action Plan

12:30 pm – 2:00 pm	**Registration and Welcome Lunch**
2:00 pm – 3:00 pm	**Inaugural Session**
3:00 pm – 4:30 pm	**Executive Session: Catalysing the implementation of ICAP** **Description:** India Cooling Action Plan (ICAP) seeks to provide an integrated vision towards cooling across sectors encompassing inter alia reduction of cooling demand, refrigerant transition, enhancing energy efficiency and better technology options with a 20 year time horizon. The ICAP provides short, medium- and long-term recommendations across different sectors while providing linkages with various programmes of the Government. The session will provide an opportunity to hear a diversity of perspectives- industry, civil society and multi-lateral entities - on how the national cooling action plans can accelerate the development and adoption of ambitious policies and breakthrough technology solutions, which in turn, will catalyse on-the-ground implementation of the ICAP.
4:30 pm – 5:00 pm	**Tea and Networking Break**
5:00 pm – 6:00 pm	**Panel Discussion: Exploring partnerships across borders: Synergies between the global cooling initiatives and India's Cooling Coalition** **Description:** Cooling, given its many dimensional, and cross-sectoral aspects, can be most effectively addressed through multi-disciplinary collaboration to achieve integrative solutions and benefits. The global context of cooling also necessitates collaborations across national borders, and international partnerships are becoming increasingly important to leverage the globally dispersed centers of excellence. In 2017, India's Cooling Coalition was established under the leadership of Shakti Sustainable Energy Foundation (SSEF) and Alliance for an Energy Efficient Economy (AEEE), with the mission to lead the nation's transition to responsible and sustainable cooling. Recently, a global coalition- the Cool Coalition led by UN Environment, the Climate and Clean Air Coalition, K-CEP, and SEforALL - was launched in April of 2019 with the objective to accelerate progress on the transition to clean and efficient cooling. Given the aligned objectives, this session seeks to explore synergies and

	partnership opportunities between the national and global coalitions, to share learnings and broaden the positive impacts.
7:00 pm onwards	**Executive Networking Dinner**

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DAY 1 (11th February 2020)

8:30 am – 9:00 am	**Registration and Welcome Tea & Coffee**	
9:00 am – 10:00 am	**Inaugural Session**	
10:00 am – 10:30 am	**Keynote Address on** *"Prioritising Energy Efficiency to address Climate Emergency"*	
10:30 am – 11:00 am	**TechnoBuzz Inaugural & Networking Tea - Coffee**	
11:00 am - 12:30 pm	**#1 Plenary Session: Role of Energy Efficiency in Energy Transition Roadmaps** **Description:** Coal investments used to run on average at 90 GW per year, but have fallen to 30 GW per year while wind and solar capacity soars globally, with 49.1 GW of wind and 95.5 GW of solar capacity installed in 2018. In the backdrop of the seismic shift happening on energy supply side, what role energy efficiency can play in a sustainable and smooth energy transition. Electrification of transport and heating, decarbonisation of hard to abate industrial sectors such as steel and cement, building and retrofitting buildings to achieve a net zero energy, water and waste habitat, financing at scale, DSM & DR based distribution systems are some of in the bag of tricks that need to be unleashed to achieve this energy transition successfully. This plenary brings together a galaxy of speakers to deliberate and speak on this all-important topic.	
12:30 pm – 1:30 pm	**Lunch**	
01:30 pm – 3:00 pm	**Paper Presentations #1** **Track – Building & Communities**	**Paper Presentations #2** **Track – Energy Efficiency & Business Competitiveness**
	1139: Development of simulation data visualization framework for high-performance buildings	**1257:** Factors influencing energy demand and GHG emissions from Indian manufacturing – An LMDI decomposition study
	1121- Bridging the gap between Simulated and Measured daylighting performance of an office space	**1221:** M&V in ESPC: The U.S. Federal Experience
	1148- Joule Recipes: A Novel Concept to Eliminate Energy Waste in Buildings	

	1147- Energy efficiency in HVAC system: Case study of a hospital building comparing predicted and actual performance and showing improvements through performance monitoring	**1256:** Market transformation for energy efficiency in Indian MSMEs through innovative Business Model **1244:** The role of industry associations and local service providers in catalysing energy efficiency in MSMEs
	Introduction of session – 10 mins Presentation Duration – 15 mins each **Q & A – 15-20 mins**	Introduction of session – 10 mins Presentation Duration – 15 mins each **Q & A – 15-20 mins**
3:00 pm - 3:30 pm	**Tea and Networking Break**	**(TechnoBuzz in side-lines)**
3:30 pm - 5:00 pm	**Paper Presentations #3** **Track – Building & Communities**	**Paper Presentations #4** **Track – Urban Infrastructure and Utilities**
	1160: Assessing consumers' behaviours, perceptions and challenges to enhance AC's energy efficiency	**1130:** Leveraging Advanced Metering Infrastructure to Save Energy
	1236- Understanding the relationship between indoor environment, electricity use and household socio-demographics: insights from an empirical study in Hyderabad	**1185:** Flexibility - The Key to survive in the upcoming Electricity Grid - A German Experience
	1124: Thermal comfort in affordable housing of Mumbai, India **1177:** Understanding trends in appliance ownership and electricity consumption across two cities of South India	**1179:** Empirical assessment of the appliance-level load shape and demand response potential in India **1173:** Review of the existing Tariff Framework for Electric Vehicle Charging in India
	Introduction of session – 10 mins Presentation Duration – 15 mins each **Q & A – 15-20 mins**	Introduction of session – 10 mins Presentation Duration – 15 mins each **Q & A – 15-20 mins**
5:00 pm- 6:00 pm	**#2 Plenary Session: Coupling Innovation & Technology with effective Business Models** **Description:** During the last two decades, there has been lot of innovations in the energy sector. Innovations in energy efficiency technology are spurring cost	

	savings for businesses and consumers while leading the way in decreasing global energy consumption. However, higher upfront cost has still been the major factor which is not allowing substantial market for these technologies. The session will highlight various innovations and disruptive technologies along with success stories and relevant business models which needs to be in place from across the globe and in India.
6:00 pm – 6:30pm	**#3 Panel Discussion on "Low Energy Cooling Residential Design Guide for Practitioners"** **Description:** Low Energy Cooling and Ventilation in Indian Residences (LECaVIR) a research project carried out by Loughborough University, UK, and CEPT University in India explored the prospects for reducing energy demand in Indian residences through the avoidance or reduction of refrigerant-based air-conditioning whilst maintaining acceptable indoor air quality and thermal comfort. The project focuses on methods to enhance natural ventilation strategies for residences. Project outputs include the development of intelligent controls algorithms for optimizing the harmonization between natural and mechanical systems and a design guide.
6:30 pm – 7:00pm	**#4 Presentation from SE4ALL: Switching gears: Enabling Access to Sustainable Urban Mobility** **Description:** Fossil-fuel based transport is contributing to the ongoing climate crisis and to the poor air quality observed in approximately 90 percent of cities worldwide. This report assesses the status of the energy-mobility nexus, and how to scale sustainable urban mobility access as rapidly as possible. It identifies 19 countries around the world –13 in Sub-Saharan Africa, and Bolivia, Honduras, India, Indonesia, Nepal, and Philippines – and an accompanying set of 260 fast-growing small-to-medium-sized cities where the highest impact might be anticipated.
7:30 pm onwards	**Executive Dinner**

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DAY 2 (12th February 2020)

8:30 am – 9:00 am	**Registration and Welcome Tea & Coffee**	
9:00 am – 10:00 am	**#4 Plenary Session: Creating a Culture of Data-driven Energy Efficiency Policies: How End-Use Energy Data can be a game changer** **Description:** Having the right data is very crucial for formulating EE policies. This is required by both government and the research community and other key stakeholders. Much of this data is collected by various government agencies but not available in public domain. Dynamic and real-time energy use displays in appliances can transform consumers' purchasing behaviour and well-designed dashboards using data from low-cost sensors and meters which can act as a real time proof to observe the impacts of energy savings measures implemented. The session will of focus on improving the culture of Energy Data Management and Benchmarking across sectors in India.	
10:00 am – 10:30 am	**Keynote Address on** *"How an effective Philanthropic commitment can help in transitioning towards an energy-efficient economy"*	
10:30 am – 11:00 am	**Tea and Coffee Break | BHAWAN session**	
11:00 am – 12:30 pm	**Paper Presentations #5** **Track – Building & Communities**	**Paper Presentations #6** **Track – Energy Efficiency & Business Competitiveness**
	1180: Assessing the Benefits of Changeover Control Algorithms in Mixed-mode Residential Buildings in India	**1220:** Energy Efficiency in post-harvest management in India
	1178: A Case Study on Design of Thermally Comfortable Affordable Housing in Composite Climate: Simulation Results & Monitored performance	**1183:** PCM based Hybrid Devices for Refrigeration
	1128: City Specific Dynamics of Energy, Environment and Comfort for Room Air Conditioner Performance	**1226:** Role of Industrial Internet of Things in creating Smart Factories
	1208: Technical potential of integrating evaporative cooling	**1122:** Energy optimization and operational transformation in the

	system with mechanical cooling system in Hot & Dry climate for day use office building in India	Quick Service Restaurant segment through IoT-enabled big data analytics
	Introduction of session – 10 mins	Introduction of session – 10 mins
	Presentation Duration – 15 mins each	Presentation Duration – 15 mins each
	Q & A – 15-20 mins	**Q & A – 15-20 mins**
12:30 pm – 1:30 pm	**Lunch**	
1:30 pm – 3:00 pm	**Paper Presentations #7** **Track – Building & Communities**	**Paper Presentations #8** **Track - Energy Efficiency & Business Competitiveness**
	1231: Quantitative and qualitative comparison of the energy section in the prevalent green building rating systems in India	**1200:** Power Quality Improvement & Performance Enhancement of Permanent Magnet Brush-less DC Motor
	1218: Integrated Design & Construction Approach for a Small Commercial Office: AEEE Office Case Study	**1199:** Energy Efficient Cascade Control Operation for Variable Speed PMSM based Pumps
	1145: Estimating air leakage for star rated hotels in Ahmedabad using blower door method	**1198:** Impact of energy analytical platform on business and operational efficiency
	1156: Assessing Thermal Performance of Building Envelope of New Residential Buildings Using RETV	**1225:** Energy Efficiency in MSMEs – Opportunity, Challenges & Possible Solutions
	1108: Climate change resilience of passive energy efficient solution packages recommended by BEEP for residential buildings	**1227:** An Online tool for Assessment of Harmonics and Reactive Power to promote Energy Efficiency & Regulatory Compliance in Indian industries & other developing countries
	Introduction of session – 10 mins	Introduction of session – 10 mins
	Presentation Duration – 12 mins each	Presentation Duration – 12 mins each
	Q & A – 15-20 mins	**Q & A – 15-20 mins**
3:00 pm - 3:15 pm	**Tea and Networking Break**	**(TechnoBuzz in side-lines)**

3:15 pm - 4:15 pm	**#5 Executive Panel Discussion: Roadmap for development of Indian Standards for electric vehicle charging** **Description:** Appropriate charging infrastructure is the sine qua non for adoption of EVs and has been the most contentious issue. Development of standards for EV charging and interfacing with electricity grid is considered to be critical for the successful deployment of charging facilities. 'Made-in-India' solutions customised to the vehicular mix, electricity grid and tropical climatic conditions in the country are the need of the hour. Then, what should be the way to develop and adopt these standards and the role of the industry in this.	**#5 Executive Panel Discussion: India Focus Sector Specific Energy Transition Strategies.** **Description:** Industry and Sector-specific experts will discuss approaches and strategies at the macro level for contributing to India's domestic choices for policy prescriptions and pathways for good businesses. Discussion in this session will focus on need for financing, necessary structural changes for managing India's large-scale decarbonisation.
4:15 pm – 4:30 pm	**Tea and Networking Break**	**(TechnoBuzz in side-lines)**
4:30 pm- 5:30 pm	**#6 Executive Panel Discussion: Pathways to Achieve Energy Savings through Successful Implementation of EE Policies in States** **Description:** States have a vital role in India's energy efficiency policy implementation. To date, most initiatives taken by states are related to Policies and Regulations. States must now exercise powers under the EC Act to shift the focus from "policies in place" to "policies successfully implemented". This panel will discuss pathways to realise energy savings through successful implementation of EE policies in states.	**#6 Executive Panel Discussion: Changing Behaviour for an Energy Efficient Future** **Description:** Significant energy savings can be achieved through energy-efficient procurement and through behavioural changes around the world. Hence, the behaviour of users, policy makers and other key actors in energy eco-system hold the foundation for designing country's pathways for an energy efficient future. This session will derive effective strategies towards behaviour change for optimum energy usage.
5:30 pm – 6:30 pm	**Solar Decathlon India – A collegiate competition with real-world impact** **Description:** The first Solar Decathlon India collegiate competition for Net Zero buildings will be held in 2020-2021. This session will provide a brief introduction to the competition the panellists will give insights on the promise such a competition in transitioning India to a low-carbon economy.	
7:00 pm onwards	**Executive Dinner**	

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DAY 3 (13th February 2020)

8:30 am – 9:00 am	**Registration and Welcome Tea & Coffee**	
9:00 am – 10:30 am	**Paper Presentations #9** **Track – Building & Communities**	**Paper Presentations #10** **Track – Energy Efficiency & Business Competitiveness**
	1167: A comprehensive overview of DST's Clean Energy Research Initiative **1140:** Pre-design performance paraphernalia: Impact of using pre-design energy modelling to guide design decisions. **1175:** Characterising Common Area Energy Use to Assess Clean Energy Opportunities in Apartment Complexes of Bengaluru **1166:** Optimized Building Controls and Grid Integration Introduction of session – 10 mins Presentation Duration **–** 15 mins each **Q & A – 15-20 mins**	**1232:** Energy Efficiency as a Service: Indian ESCO market assessment - recent trends, market size and potential, drivers and barriers **1193:** eProject Builder: promoting wider adoption of energy savings performance contracts through standardization and transparency **1153:** The End of Dumb HVAC Assets **1240:** The Intersection between the Digital Revolution and the Need to Develop Human Capital Introduction of session – 10 mins Presentation Duration – 15 mins each **Q & A – 15-20 mins**
10:30 am – 11:00 am	**Tea and Coffee Break**	
11:00 am – 12:30 pm	**Paper Presentations #11** **Track – Urban Infrastructure and Utilities**	**Paper Presentations #12** **Track – Energy Efficiency & Business Competitiveness**
	1170: Effectiviness and Balance: a Canadian regulator's approach to review of energy efficiency funding proposals **1174:** Selection of Charging Technology for Electric Four-wheeler Commercial Fleets in the Indian cities **1216:** Evaluating the Challenges Faced by SHS and DRE Practitioners in	**1242:** Achieving Business Competitiveness Through Smart Thermostats for Hotels **1196**: A systematic Methodology for Reducing Compressor Consumption in Manufacturing Industry Cluster **1149:** Continuous Condenser Circuit Optimization in Water-Cooled Chiller Plants

	Supplying Energy Efficient Appliances in Rural India **1133:** Prospects for PV recyclability & it's associated end-of-life management; Indian perspective **1191:** Market changes and expected Solar PV power plant operational hurdles and approaches to reduce its impacts for better energy asset management (OEM) Introduction of session – 10 mins Presentation Duration **–** 15 mins each **Q & A – 15-20 mins**	**1246:** Managed energy efficiency services for manufacturing plants **1119:** Fouling control technology in crude distillation unit at NRL Introduction of session – 10 mins Presentation Duration **–** 15 mins each **Q & A – 15-20 mins**
12:30 pm – 1:30 pm	**Lunch**	
1:30 pm – 02:30 pm	**#7 Plenary Session: Role of Partnerships to accelerate sustainable development** **Description:** The International partners (bi-laterals and multi-laterals and Foundations) contribute significantly to the research and analysis being conducted to inform policy framework and implementation. This session intends to draw a roadmap for enhancing collaboration with National and international partners for achieving sustainable developmental goals.	
2:30 pm – 4:00 pm	**RESIDE**: Round table on measuring residential energy	**Business Leader Discussion for Low Carbon Growth Model to address Climate Change and Sustainability by British High Commission**
4:00 pm – 4:15 pm	**Tea and Coffee Break**	
4:15 pm – 5:00 pm	**Valedictory Session**	