Alliance for an Energy Efficient Economy

ANNUAL REPORT

2019-20

Transitioning to a Climate Resilient & Energy Secure Future

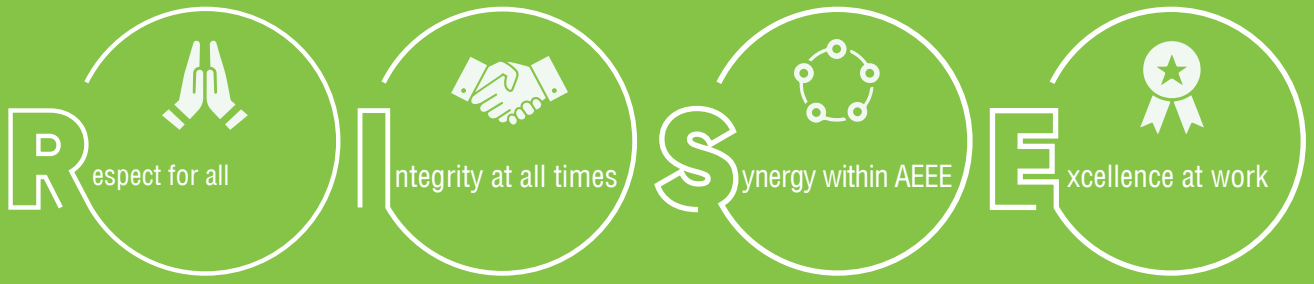
Contents

About Alliance for an Energy Efficient Economy

Alliance for an Energy Efficient Economy (AEEE), is one of the leading organizations in India that works on creating awareness about energy efficiency as a resource. It is a policy advocacy and energy efficiency market enabler with a not-for-profit motive. Since its inception in 2008, the organization advocates for data-driven and evidence-based energy efficiency policies and research, working across industry, government, and civil society to foster a culture of energy efficiency in India.

AEEE advocates for Thermal Comfort for All, Lean-Mean-Green philosophy to design and construct net-zero energy-water-waste built environment, Sustainable Transportation, Energy Data Framework for better policymaking and implementation. The organization is committed to achieve India's energy transition for a climate-resilient and energy secure future therefore meeting India's commitments to 2030 nationally determined goals (NDC) and UN sustainable development goals (SDG).

Our Core Values



Our Mission

- Foster a culture of energy efficiency in India
- Enable Energy Transition by working across industry, government and research/ civil society organization
- Accelerate impact as a policy enabler through thought leadership and research to meet India's 2030 Nationally Determined Contribution (NDCs) and Sustainable Development Goals (SDGs)

Our Vision

- Transition to a Climate Resilient and Energy Secure Future

As a think-tank and industry association, we adopt a 360 degree approach, collaborating with diverse stakeholders including policymakers, government officials, Business and Industry, consumers, researchers, and civil society organizations, bringing together the best to the Energy Efficiency landscape in the country. The aim is to transform the market for energy-efficient products and services, thereby contributing towards meeting India's commitment to the Nationally Determined Contributions (NDCs) and

United Nations Sustainable Development Goals (SDGs). As part of providing value-added service to our members and partners, our three priority efforts include:

Policy Advocacy

Advocate for data driven and evidence-based policies to unleash innovation and entrepreneurship to create an energy-efficient Indian economy.

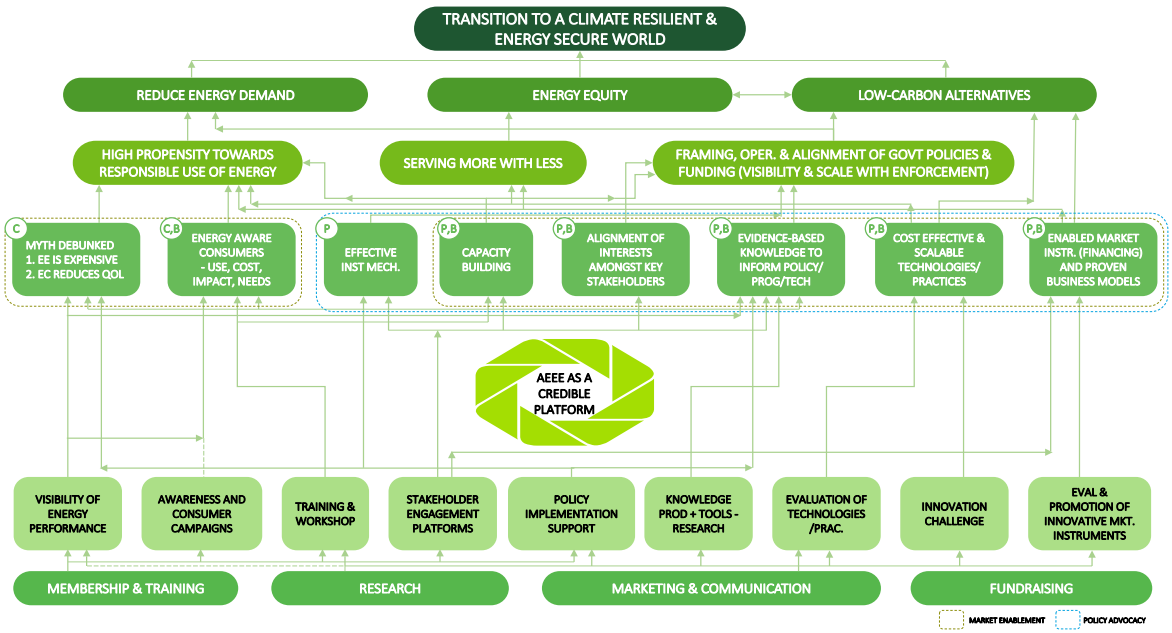
Market Enablement

Help create a market for best available technologies and solutions by collaborating with industry and government to design and implement effective policies.

Business & Industry Platform

A convening platform for industry, government & civil society; training & capacity building on EE technologies & solutions; flagship events and conference.

AEEE Theory of Change



Our Focus Areas

India's energy demand is expected to double by 2030. Becoming more energy efficient is the cheapest and fastest way to reduce energy consumption as well as reduce carbon pollution.

AEEE is consistently identifying areas of engagement as it provides evidence to build an economic case for energy efficiency which needs accelerated attention now more than ever. Its work is focussed on areas that would enable energy to be used productively, spur economic growth, and contribute to building a clean environment.

At Alliance for an Energy Efficient Economy, we are consistently identifying areas of engagement via research and data-driven evidence to build an economic case for energy efficiency. Our work is focussed on various areas that would enable energy to be used efficiently and productively contributing to a sustainable future. To achieve this AEEE, has recently engaged in a strategic overhaul.

AEEE aids the design and implementation of policies that lead to greater energy efficiency in five sectors with enormous potential:

Buildings and Communities

The building sector in India is experiencing unprecedented growth and is likely to add about 35 billion m^2 of new floor area by 2050. Presently, according to the Bureau of Energy Efficiency (BEE), the building sector accounts for approximately 35% of total energy consumption and is growing at nearly 8% annually. India also faces exponential growth in cooling demand - currently, it has one of the lowest per capita kWh worldwide for space cooling, despite having extremely high cooling needs. Providing thermal comfort, reliable electricity, nutritional food, and access to vaccines to all its citizens is a key challenge and also a pressing priority. This offers emerging opportunities for more future-ready buildings and habitable communities – with ambitious building energy codes, net-zero energy, and net-zero carbon buildings, low-energy cooling innovations, energy-efficient and smart appliances, and sustainable cold-chain infrastructure for horticulture and vaccines.

Power Utility & Electric Mobility

In today's carbon-constrained world, electricity and mobility sectors are on the cusp of transformation, aided by a rapid decline in battery cost and enabled by analytics and advanced control & communication technology. The way electricity is generated, distributed, and consumed is undergoing a major transformation with the deployment of Distributed Energy Resources (DER), implementation of Demand Side Management (DSM)/Demand Response (DR) measures, and adoption of innovative business models. Additionally, the transport sector is witnessing a paradigm shift with the electrification of vehicles. In this revolution, charging infrastructure, which closely binds mobility with the electricity sector, throws some serious challenges as well as opens a new frontier of opportunities. As sectors are getting remolded, the synergy between different players to cater to the energy requirements of the 21st Century is critical.

State and Local Actions

The Energy Conservation Act, 2001 created State Designated Agencies (SDAs) in every state and empowers them to co-ordinate, regulate, and enforce the provisions of the Act within each state. Following this, states have taken initiatives to create awareness and implement energy efficiency policies. The challenge is, in realising actual energy savings by shifting gears from "policies in place" to "policies successfully implemented". Further, a robust energy data management system is required for monitoring & verifying the impact of existing policies and to formulate new policy measures. AEEE's focus areas at the state level are the State Energy Efficiency Index, engaging and supporting states in developing effective energy efficiency action plans, and enhancing and enabling the use of energy data for policymaking.

Industrial Energy Efficiency

The industry sector contributes to almost 50% of the total GHG emissions in the country. Developing strategies for decarbonizing high emitting industries through innovations in technology, process interventions, and fuel shift options are, thus, a national priority. The material efficiency interventions and circular economy principles when applied to the demand sectors can give directions for reducing the demand and in turn, will result in reduced emissions.

Industry Platform & Business Creation

AEEE is a convening platform bringing key energy stakeholders - industry, government, civil society, and professionals together to engage in a constructive dialogue to influence effective and impactful policies and build a robust ecosystem for effective implementation. This includes innovation in business models and easy access to financing that will lead to market transformation for energy efficiency technologies. AEEE currently has 48 members from diverse sectors. Our extensive network with different stakeholders helps our members mobilize potential partnerships via workshops and conclaves.

Our Members

Premium Members

BOSCH Invented for life, Carrier, DAIKIN, Danfoss, GRUNDFOS, Infosys, SAINT-GOBAIN, Life Is On Schneider Electric, SIEMENS Ingenuity for life, tabreed

Large Members

HMX COOLING & HEATING, ORACLE Utilities, SKF

General Members

AGNISUMUKH, ARMSTRONG, ATOMBERG TECHNOLOGIES, Baghirathi, CEPT UNIVERSITY, cKinetics Accelerating Sustainability, Coolfit, covestro, ECOENERGY INSIGHTS, EESL, ENCON, EnergyTech, ENGIE, ENSYSTEMS, GSH, Geneffco, SHAKTI, SEEtech, TORO, VASUKI, VIVEKANANDA GLOBAL UNIVERSITY, JAIPUR

Associate

75F, aeon, amplebill energy, aspiration energy, bp refcool, BSES, cygni, Idam, panitek, SUNMEISTER

Strategic Partnerships and Collaborations

Government Partners

Development Sector Partners

Our Team

AEEE has on board domain experts and dedicated professionals who are actively engaged in taking AEEE to the next level.

S. No.	Team Members	Designation
	Core Team@AEEE	
1	Anu Raswant	Executive Assistant to President & ED
2	Anukriti Pathak	Research Associate
3	Bhairav Sharma	Coordinator - Membership & Training
4	Bhawna Tyagi	Research Associate
5	Chandana Sasidharan	Senior Research Associate
6	Debanjan Mukerjee	Research Analyst
7	Deepak Tewari	Principal Research Associate
8	Gerry George	Research Associate
9	Ipshita N Banerjee	Manager Communication & PR

S. No.	Team Members	Designation
10	Ishan Jain	Senior Research Associate
11	Jaydeep Bhadra	Research Associate
12	Nidhi Rai Jain	Research Associate
13	Simrat Kaur	Research Analyst
14	Reshma Verma	Manager- Admin & HR
15	Sandeep Kachhawa	Senior Research Associate
16	Sangeeta Mathew	Program Lead
17	Shravani Itkelwar	Research Analyst
18	Sanjay Chaurasia	Senior Executive - DTP & Graphics Design
19	Sahib Kukreja	Event Coordinator
20	Satish Kumar	President & ED
21	Shyamasis Das	Principal Research Associate
22	Srishti Sharma	Research Analyst
23	Sudha Setty	Director- Marketing, Membership & Training
24	Sumit Kumar	Assistant Manager - Accounts
25	Tarun Garg	Program Lead
26	Varun Rajah	Research Associate
	Consultant	
1	Sneha Sachar	Senior Advisor
2	Koshy Cherail	Principal Advisor
3	Sanchari Deb	Electric Mobility Team
4	Nikita Gupta	Digital Content, Communications & PR

Strategic Vision

Leadership

The 11th Annual General Meeting of Alliance for Energy Efficient Economy (AEEE) held on 29th August 2019 elected its new Executive Council for the term 2019-2021. The new council is chaired by Mr Upendra Bhatt, Managing Director of cKinetics. Mr Devidas Kulkarni, Vice President, Siemens, and Mr Venkat Garimella, Vice President, Schneider Electric serves as Vice-Chair and Treasurer respectively.

The Council brings vast experience and knowledge, extremely beneficial in guiding AEEE to the next level.

Secretariat Leadership

The newly appointed leadership along with President Satish Kumar will lead the industry body to carry out its wide array of objectives for the next two (2) years in support of the country's resource efficiency and low carbon development agenda.

Executive Council (EC) 2019-20

List of Executive Council for 2019-2021 is as below:

Name	Member Organisation	Designation
Elected Members		
Mr Upendra Bhatt	cKinetics	Chairperson, AEEE EC
Mr Devidas Kulkarni	Siemens Ltd	Vice Chairperson, AEEE EC
Mr Venkat Garimella	Schneider Electric	Treasurer, AEEE EC
Mr Saurabh Kumar	EESL	Member
Mr Ranganath N Krishna	Grundfos Pumps India	Member
Mr Anand Srinivasan	Covestro India Pvt Ltd	Member
Mr A R Unnikrishnan	Saint Gobain India Pvt. Ltd.	Member
Mr Chirag Baijal	Carrier Air Conditioning	Member
Mr Darshi Dhaliwal	Toro Watt Corp	Member
Mr Arjun P. Gupta	Smart Joules Pvt Ltd	Member
Prof Rajan Rawal	CARBSE, CEPT University	Member
Dr Satish Kumar	Alliance for an Energy Efficient Economy	Secretary
Invited Members		
Dr Shalini Sarin	Independent Director Linde India; Board member Signify Foundation, NL & ISA Global Taskforce for Foundations, UN	
Dr Pramod Deo	Former IAS Officer, CERC and MERC Chairman	
Mr Sanjiv Aggarwal	Partner, Actis	

AEEE's President and Executive Director works directly with the Board, i.e., the Executive Council (EC). To enable effective governance and coordination, AEEE's operational matters are overseen by a Management Committee comprising of the Chairperson, Vice-Chairperson, and a Treasurer.

In addition, to guide and oversight the AEEE Secretariat on key policies, the Executive Council has established 3 sub-committees:

1. Finance and Audit Committee
2. Remunerations and HR Policy Committee
3. Programmes and Projects Oversight Committee

The **Finance and Audit Committee** provides oversight on budgets, spending, approval of the budget for capital expenditure, new projects, and programmes.

The **Remunerations and HR Policy Committee** oversees HR policies, conducts senior leadership performance reviews, approves annual increments, approves senior hires.

The **Programmes and Projects Oversight Committee** ensure that all the AEEE's programmes and engagement with partners and member companies must be in alignment with the AEEE's vision and mission.

Current committee members

HR and Compensation Committee	F & A Committee	Programs and Projects Committee
Devidas Kulkarni – Convener	Venkat Garimella – Convener	Chirag Baijal – Convener
Arjun Gupta	Sanjiv Bhatia	A.R. Unnikrishnan – Co-Convener
Venkat Garimella	Upendra Bhatt	Rajan Rawal
Upendra Bhatt	Ranganath N Krishna – Outgoing Treasurer	Darshi Dhaliwal
Dr Shalini Sarin		Upendra Bhatt

Projects 2019-20

Projects Convened

The year gone by, 2019, has been momentous for AEEE. This year has seen unparalleled growth in diverse directions, meaningful dialogue with a range of partners, implementation of exciting new projects, fruitful culmination of some key initiatives and overhauling of the organization's strategic vision and sectoral focus.

As AEEE proceeds to becoming a more empowered organization with the office space now enhanced in credibility with a LEED Platinum (ID+C) certification, the organization is walking the talk on energy efficiency. Charting pathways for equitable growth the office is expanding in capacity and staff strength.

We also have left an indelible mark on India's energy efficiency, landscape, with India's largest pre-COVID19 conference on energy efficiency energise2020. AEEE's flagship biennial energy efficiency conclave, organised in partnership with MacArthur Foundation and American Council for an Energy-Efficient Economy, aimed at spotlighting and driving the broader narrative of energy efficiency by shaping the future trends of energy efficiency in India hosted in the vibrant city of Hyderabad, from 11-13 February 2020.

Here are some of AEEE's leading initiatives from the past year.

Charging India's Bus Transport

The future is electric, and charging infrastructure is the backbone of electric mobility. A substantial volume of investment is necessary to create the infrastructure for an e-bus fleet. Understanding the charging demand and preferences of a public e-bus fleet is critical to make the investment worthwhile. AEEE conducted the study which aimed to provide definitive guidance to the bus service providers and OEMs in setting up charging infrastructure for an intra-city e-bus fleet in a Tier-I and Tier-II cities of India. The study recognized that the success of the e-bus transport depends on several factors such as the technical specifications and the cost of different charging technologies, the available electricity distribution network, the current e-bus specifications, the intra-city bus operation characteristics, and the charging infrastructure space requirement.

Mainstreaming Super-efficient Appliances

Alliance for an Energy Efficient Economy (AEEE) partnered with the American Council for an Energy-Efficient Economy (ACEEE) to study the most energy-efficient product models in the market. The aim was to identify technologies that differentiate the most energy-efficient models from others and suggest pathways for mainstreaming super-efficient technologies. AEEE chose three appliances which were among the top appliances in residential electricity consumption for the period 2015-2030.

The research includes an analysis of appliance energy consumption vis-à-vis technology used. AEEE sought inputs from manufacturers on barriers and recommendations for mainstreaming the most energy-efficient technologies and developed policy recommendations and published these in a report in August 2019.

Increasing Energy Access by Using Super-Efficient Appliances in Rural Households and Productive Businesses

On the sidelines of AEEE's biennial conclave energise 2020 AEEE expanded its domain of work into efficiency for energy access, with the launch of the report 'Increasing Energy Access by Using Super-Efficient Appliances in Rural Homes and Productive Businesses: India Stakeholders Mapping Report'. AEEE collaborated with CLEAN (Clean Energy Access Network) to survey DRE system providers and manufacturers of super-efficient appliances, visited several off-grid sites to study super-efficient appliances, and held stakeholder round tables for DRE systems providers and manufacturers. Apart from the report, AEEE has developed a data portal with details of various super-efficient appliances and manufacturers, to serve as a B2B platform.

Cold-chain Energy Efficiency in India: Analysis of EE Opportunities in Pack Houses

The project was undertaken as part of an ongoing study commissioned by the World Bank and Energy Sector Management Assistance Program for the Bureau of Energy Efficiency. AEEE undertook the study assessing EE potential and development of regulatory tools for promoting EE in pack-houses.

The specific focus of the assignment was pack-houses, as the segment where significant capacity addition is anticipated over the next two decades to create an integrated agricultural cold-chain, with a corresponding increase in energy demand.

The primary objective of this study was to identify potential interventions by BEE that could enhance the EE of pack-houses in India. The study comprised of three major tasks:

- Stocktaking and Initial Assessment
- Data collection in select pack-houses and energy saving potentials estimation
- Recommendations on policy and regulatory options to BEE

AEEE conducted 2nd stakeholder consultation meeting on November 14th with to discuss the various policy and regulatory recommendations with an emphasis on the following:

- Synergies with NCCD guidelines, ongoing BEE programs like S&L, ECBC and ICAP recommendations
- Guidelines on energy-efficient design and operation of pack-houses
- Need for development of baseline and benchmark for energy performance evaluation of pack-houses
- Institution building and skill development
- Linking the incentives with the adoption of energy-efficient design, construction, and operation

Ongoing Projects

Global Cooling Prize

The Global Cooling Prize is rallying a global coalition of leaders to solve the critical climate threat that comes from growing demand for residential air conditioning. By harnessing the power of innovation, cooling solutions can be provided that enhance people's lives without contributing to runaway climate change. AEEE has partnered with the Rocky Mountain Institute (RMI), USA, Department of Science & Technology (DST), under the Indian Ministry of Science and Technology, Mission Innovation, Conservation X Labs, and CEPT University for the project.

AEEE also worked with RMI to help facilitate the Global Cooling Prize Launch in India as an outreach partner, The finalist award ceremony took place on November 15th where eight teams from around the world were selected to develop prototypes of their affordable cooling solutions with potential for five-times less climate impact. The Finalist teams include Gree Electric Appliances Inc. of Zhuhai, Daikin Air Conditioning India Private Ltd., and Godrej and Boyce Mfg. Co. Ltd.; start-ups and corporations, including S&S Design Startup Solution Pvt. Ltd., Transaera Inc., M2 Thermal Solutions, Kraton Corporation; and Barocal Ltd, a new spin-out from a University of Cambridge lab.

The 8 finalist teams have been awarded US$200,000 each to develop and ship their prototypes to India for testing in the summer of 2020. The winner of the Global Cooling Prize will be announced in March 2021 and awarded more than US$1 million in prize money.

Charging India's Four-Wheeler Transport

The electric mobility (e-mobility) sector in India is at a nascent stage. One significant challenge about scaling up electric vehicle (EV) adoption in the country is the lack of provision of EV charging infrastructure to avoid range anxiety. The central and state governments are encouraging Public Sector Undertakings (PSUs), Power Distribution Utilities, and other public agencies, including Urban Local Bodies (ULBs) and Urban/ Area Development Authorities, to support the establishment of public charging facilities. However, EV charging is a new domain for them, and, thus, several challenges remain concerning the planning and establishment of e-4W charging infrastructure.

AEEE is researching to facilitate the successful deployment of public e-4W charging infrastructure in the Indian cities. The key factors like charging facilities and charging technologies along with the recommendations have been prepared through surveys and will be notified in a report.

Green Vehicle Rating - Phase II

GREEN VEHICLE RATING

Alliance for an Energy Efficient Economy (AEEE) has pioneered the Green Vehicle Rating (GVR), the country's only vehicle rating system based on environmental performance. It served as a consumer information tool that identifies high to low performing vehicle models, in two and three-wheeler categories, in terms of the negative impacts of GHG emissions and criteria pollutants released from tailpipes of top-selling models. Along with a comparative analysis of vehicle models, the GVR shows the external costs of pollution from vehicle exhausts - both GHGs and criteria pollutants. AEEE team also developed a dedicated web-portal on GVR. The portal allows consumers and other stakeholders to check the vehicle ratings, the method, data, and assumptions used to rate the vehicles.

AEEE is now planning to improve the existing GVR program (Phase-II) by:

- Expanding the scope of GVR to include non-ICE vehicle technology as well an incorporate more ICE-models in two-wheeler and three-wheeler segments
- Modifying an existing rating framework to make it sensitive to vehicle engine capacity
- Building awareness about the rating system through a concerted outreach effort

India Cooling Coalition

Acknowledging the need for collaborative and concerted action in space cooling, the Sustainable and Smart Space Cooling Coalition (SSSCC) forum was instituted in 2016 by AEEE in collaboration with Shakti Sustainable Energy Foundation (SSEF). With the key participation of 12-member organizations leading the research in multiple aspects of space cooling, the intention was to bring forth focused efforts in promoting energy-efficient and environmentally sustainable cooling design strategies and technologies. These organizations included CLASP, CEEW, CPR, CEPT University, Fair-conditioning, ICLEI, ISHRAE, MNIT, NRDC, Prayas (Energy Group), and Smart Joules.

The India Cooling Coalition is a national multi-stakeholder network that works with a wide range of key actors from government, international organizations, businesses, finance, academia, and civil society groups to facilitate knowledge exchange, advocacy and joint action towards sustainable cooling. During the previous phases (2016-19), the Coalition worked towards keyspace cooling elements in Buildings Design & Cooling technology, Standards and Codes, and Market Transformation. The Coalition recommended and promoted the adoption of lean, mean and green space cooling strategies for meeting India's thermal comfort needs

With the launch of India Cooling Action Plan (ICAP) in March 2019 which is an over-arching cross-sectoral document to mitigate development agenda with environmental challenges, the vision, and mission of the Cooling Coalition has been re-defined with an overall objective of advancing the agenda of implementation of ICAP. Alliance for an Energy-Efficient Economy (AEEE) is the nodal organization functioning as Secretariat and coordinating all activities of the Coalition along with facilitating interaction amongst members. The Coalition has presently 15 members (non-profits, academic, and research institutions, and industry associations) who are engaged in advanced space cooling elements research and application. The members include CLASP, CEEW, CPR, CEPT, Fair-conditioning, GKSPL, GSI, ICLEI, IGBC, ISHRAE, MNIT, NRDC, Prayas (Energy Group), Smart Joules, and TERI. Beneficiaries include MoEFCC and other line ministries and attached departments/bodies (MoHUA, BEE, MoAF&W)

Towards Climate Responsive and Low Carbon Development: Addressing the Critical Urban Issues In Residential And Transport Sector In Uttarakhand

AEEE is currently supporting the National Mission on Himalayan Studies (NMHS) goals by addressing cross-cutting issues in major urban centers of Uttarakhand. This project will foster R&D in areas related to energy and built environment within colder regions and will allow deep-dive into the targeted issues. The project findings will also guide other colder regions in the Himalayan ecosystem to strategise sustainable and low carbon development of the residential sector. AEEE is supporting Ministry of Environment, Forest and Climate Change (MoEFCC) and Global Buildings Performance Network (GBPN) by creating this science-policy-practice connect through a network of policymakers and practitioners (individuals and institutions) engaged in working solutions to problems in the thematic areas.

Urban Transport

- Support in the decision making of the concerned authority in Uttarakhand regarding deployment of electric buses for public transport on specific intra-city or intercity routes;
- Support in building the institutional capacity of relevant state actors in Uttarakhand with regard to the implementation of electric mobility in the state.

Urban Residential Sector

- Development of residential building guideline/ roadmap with a focus on occupants' comfort and energy optimisation;
- Support demonstration projects through concurrence with development authorities/ developers by integrating guidelines recommendations;
- Facilitating workshops, campaigns, roadshows to sensitize government officials and occupants, and support capacity building of relevant stakeholders.

National Cooling Action Plan (NCAP)

AEEE has been identified as an expert organization for the development of NCAP methodology. Following ESCAP's mandate to support its member States in achieving the Sustainable Development Goals (SDGs), and the United Nations Environment Program's (UNEP) role as the leading global environmental authority that promotes the coherent implementation of the environmental dimension of sustainable development within the UN system UNEP and ESCAP are collaborating to accelerate policy development on sustainable cooling for all in the Asia Pacific Region. This will stimulate further progress towards achievement of SDG 7 and 13 (and also encourage progress on other SDGs, namely: SDG 1, 2, 3, 8, 9, 10, 11, 12 and 14) through equipping national governments to conduct holistic assessments of their countries' cooling needs and develop National Cooling Action Plan (NCAP), as well as feature sustainable cooling in the Nationally Determined Contributions (NDCs).

Policy Strategy for decarbonizing the Indian building sector

The Energy Conservation Building Code for Residential Sector (ECBC-R) was launched in December 2018 by the Minister of Power. Part I, sets minimum building envelope performance standards to limit heat gains and heat losses, for adequate natural ventilation and daylight potential. Part II, focusing on EE in electro-mechanical equipment for building operation, RE generation, embodied energy of materials, is

under development. Implementation of ECBC-R will have the potential for energy savings of 125 billion units of electricity per year by 2030, which is equivalent to about 100 million tons of CO2 emission.

PMAY-U, Government of India's flagship program aiming to provide affordable housing to urban and rural poor. Launched in 2015, the PMAY-U is targeting to build approximately 12 million dwelling units by 2022, out of which only 2% is constructed, 6% is under construction and 32% is sanctioned. Recent studies show that the government is well on track to realize the goal of 10 million dwelling units by 2022 which leaves a very narrow timeframe to grab this opportunity for building energy-efficient and thermally comfort houses.

The project will support Indian State governments to adopt appropriate sustainable building policies and energy codes that will aid Nationally Determined Contribution commitments to reduce the emissions intensity of its GDP by 33 to 35 percent by 2030 from 2005 level and exceed India's commitments to climate action.

Validating ICAP Projections Through Robust Energy Modelling:

AEEE under the guidance of MoEFCC and SSEF (Shakti Sustainable Energy Foundation), is assessing sustainable and low carbon pathway with an optimal mix of efficient technologies for implementing ICAP in lieu of the recognition of the need to accelerate and strengthen the work on the implementation of ICAP by lending the necessary expertise, data inputs, and modelling evaluation.

NITI Aayog's Working Group on Demand Side Energy Data Management

AEEE is working with NITI Aayog on the Energy Data Management for India. NITI Aayog has constituted a Working Group (WG) on the building sector which is being chaired by Additional Secretary of Ministry of Housing & Urban Affairs (MoHUA). The working group aims to identify the current status of energy data management in India, issues with energy data collection system, and sector-wise energy data gaps. The outcome envisaged from this working group is to strengthen the existing energy data collection/dissemination system in India and develop a mechanism for real-time energy data update for energy sector planning.

State Energy Efficiency Index

The 'State Energy Efficiency Index 2019' was launched by Shri R K Singh, Honorable Minister of State (Independent Charge) for Power and New and Renewable Energy on January 10th at the Review Planning and Monitoring meeting with state power secretaries and heads of state DISCOMs. The Index, which tracks the progress of Energy Efficiency (EE) initiatives in 36 states and union territories based on 97 significant indicators, was developed by AEEE under the guidance and leadership of the Bureau of Energy Efficiency (BEE), with technical counsel from American Council for an Energy Efficient Economy (ACEEE) and support from MacArthur Foundation.

The Index will help states contribute towards national goals on energy security and climate action by

- Helping drive EE policies and program implementation at the state and local level
- Tracking progress in managing the states' and India's energy footprint
- Institutionalizing data capture and monitoring of EE activities by states

The first Index, the "State Energy Efficiency Preparedness Index 2018", was launched on August 1, 2018. Taking forward the first Index, the State Energy Efficiency Index 2019 incorporates qualitative, quantitative, and outcome-based indicators to assess energy efficiency initiatives, programs, and outcomes in five distinct sectors – buildings, industry, municipalities, transport, agriculture, and DISCOMs. This year BEE will also be sending a copy of the report to Chief Ministers of the states. The team has already started work on State Energy Efficiency Index 2020 in April 2020.

Building Energy Data Management

In India, the growth in residential and commercial building stock coupled with growth in building energy use is resulting in a rapid increase in energy use in the buildings sector. Designing energy reduction policies demands robust energy data for decision making analysis. Making credible data available in a timely manner requires a robust institutional mechanism in place for data collection, analysis, and dissemination. The current energy data framework in the country provides insufficient information, lacks consistency as well as periodicity.

AEEE is carrying out in-depth research to assess the current practices followed in building energy data management, identify gaps, and recommend implementable solutions to strengthen the existing energy data framework.

CIFF project

Recently in the month of March 2020, AEEE signed the agreement to be a part of the consortium of organisations along with TERI and CEEW to initiate a four years long program focussing on the implementation of the India Cooling Action Plan. The overall project is supported by a grant from the Children's Investment Fund Foundation (CIFF), a philanthropic organisation registered in the United Kingdom. The grant is provided in line with the envisaged intervention by CIFF in the India strategy, which includes improving India's climate policies and laying the foundation of an enhanced 'Nationally Determined Contribution' (NDC). CIFF on its part has agreed to provide a grant to facilitate the implementation of 'India Cooling Action Plan (ICAP)'. With TERI being the leader of the consortium, both AEEE and CEEW have mutually exclusive work-packages focusing on their areas of domain expertise. AEEE's work themes span across: implementing space cooling policies, programs and regulation in the appliance, buildings and cold chain sectors.

Demand reduction potential in decarbonizing the cement and steel industry

India's aim to become a robust economy is dependent on the growth of its industrial sector, but on the other hand, to abide with its Nationally Determined Contributions (NDCs), the country has to focus on curtailing the GHG emissions from its industrial sector. Within the industrial sector, Cement and Steel are two major contributors to GHG emissions and accounts for 62% of total industrial emissions. Further, the demand for cement and steel is expected to grow rapidly in the near future. The housing, commercial, and infrastructure are the largest demand drivers for these two commodity products.

AEEE is carrying out the research to assess the potential of demand reduction measures in the decarbonization of the cement and steel sector in India. The research focuses on identifying low carbon alternative materials, material substitutions options, and exploring recycle and re-use opportunities to reduce cement and steel consumption.

The impact of the research work will justify the need for material demand reduction and help in developing definitive pathways for the transition of cement and steel to a low carbon economy.

Solar Decathlon

Solar Decathlon India project is another ongoing project that is being conducted by the Indian Institute for Human Settlements (IIHS) and the Alliance for an Energy Efficient Economy (AEEE) under the aegis of the Indo-US Science and Technology Forum (IUSSTF), in collaboration with the US Department of Energy (DOE). Solar Decathlon India is an annual competition for interdisciplinary collegiate teams to design resilient, super-efficient, affordable net-zero-energy-water-waste buildings, powered by renewable energy.

The Teams will work on real building projects by partnering with developers, clients, or other real estate proponents, to introduce affordable market-ready solutions that we urgently require in the face Climate Change. There are ten contest areas, and the entries are evaluated for each of the ten contests. Solar Decathlon India provides academic institutions a platform to educate students in responding to climate change and get hands-on experience in developing innovative solutions for net-zero buildings. Participants in Solar Decathlons across the world, have gained knowledge, experience and recognition. Per the first five-year scope of the program, over 4,500 new students will learn and able to design net-zero, resilient, and resource efficient buildings, and fully implement India's energy code.

The partnership is in line with the India's commitment to achieve the Nationally Determined Contributions for the 1.5°C pathway to limit the emission of Greenhouse Gases under the Paris Agreement, implement the India Cooling Action Plan, to build and move towards a resilient, sustainable and clean built-environment.

AEEE Strategic Roadmap

Every organisation needs a strategy to smoothen up their work process. At AEEE, currently, all research teams are in the process of developing a three-year strategy. The teams had several rounds of meeting and the strategic roadmap is expected to complete in the next 1-2 months. Some of the new areas being explored under this exercise have been included under:

Buildings and Communities

Rapid economic growth & increasing population has resulted in rapid urbanization that has driven the energy demand in the country. According to the latest estimates, India's electricity consumption has been growing at a CAGR of 7.14%. After industry, buildings sector (33%) is the 2nd largest and agriculture is the 3rd largest consumer of electricity. At the same time, India's building sector accounted for ~190 million tonnes of CO_2 equivalent (7%) and food loss accounts for ~64.1 million tones of CO_2 eq (2.4%). To reduce these gaps, AEEE is continuously working to promote and the key strategic needs of the builds and communities sector. Some of them include thermal comfort for all, reduction in food loss, reduction in CO_2 emissions and climate change impacts, increasing energy access, reduction in increased cooling and energy demand of buildings, the efficacy of vaccines, and increasing job opportunities in building and agriculture sector. At AEEE, we collaborate with its members, partners, and allies, to consistently facilitate dialogue between the private sector, government, NGOs, and

other key national and international institutions to advocate effective and impactful policies for driving buildings & communities' energy efficiency in India. Our strategic vision is to create more energy efficiency measures in the buildings & communities sector by undertaking key activities like research and analysis, policy advocacy and implementation, and market transformation that will help to meet India's NDC targets and achieve SDG.

Energy Data Services (EDS)

Data is a strategic necessity in any decision-making process, including policy formulation, monitoring, and evaluation. Limited energy consumption data by end-use (e.g. cooling, water heating, etc.) and EE data at country, state, and city-level are potential gaps in the creation of interactive dashboards and energy access data.

At AEEE, Energy Data Services plays a critical role to develop the organisation as a go-to place for energy-end use data analytics. It will also help in mining more information quickly in an automated way as well as also help in re-positioning EE using data expertise in the light of topical events.

AEEE's past and growing expertise in data-driven research and demonstrated track record of creating distinct and unique value in 3 distinct verticals i.e. Building & Communities, PU&EM, and Industry EE will help in drawing synergies and interconnections. At the same time, our Triple Sector Approach and growing member base of leading EE businesses is a unique source of market data.

A strategic approach will help the organization in focusing advancements in data collection, data management & visualization, and cutting-edge data analytics to identify and close significant gaps in energy end-use data. This will further help in providing transparent data alongside value-added insights to internal and external stakeholder groups for policy formulation, implementation, and evaluation support, enabling a flourishing market for energy-efficient products and services, and increasing consumer awareness towards adoption energy efficiency.

Industrial Energy Efficiency

India's industrial sector accounts for 58 % of the country's total energy consumption. Of this, Iron & Steel, Chemical, and Cement collectively account for 50% of the total energy consumption. Moreover, Iron & steel, & Cement contributes to 62% of the total Industrial emissions. At AEEE, we know that emission reduction from sectors such as Iron & Steel, and Cement is both challenging and difficult. However, a combination of innovative and integrated measures could reduce emissions significantly. Also, policy interventions and cooperation can help SMEs in promoting low carbon development and gaining competitiveness at a global level.

AEEE unique value proposition and a track record of integrated research on climate mitigation strategies like technological & process solutions, policy & regulatory actions, innovative business models & financing mechanisms help in identifying pathways for accelerating climate actions to usher low carbon transition in the industry.

As a leading think tank, our strategy is to focus on EE and low carbon opportunities in the Cement, Iron & Steel sector. This will help us in exploring validated mitigation measures on technology shift, fuel switching, material efficiency, and energy management by conducting deep research to support evidence-based policymaking that creates a measurable impact on society, environment, and economy.

Power Utility & Electric Mobility

Both power generation and transport are emissions intensive sectors. Just like, electricity consumption is expected to increase significantly, transport electrification is also coming up as a leading factor for increase in electricity consumption. The proliferation of distributed energy resources (DER) is one of the most disruptive trends in the traditional energy industry for the foreseeable future. Presently, India's public utility sector needs more push for real-time markets, demand flexibility, adoption of load forecasting strategies, more energy storage techniques, etc. On the other hand, the electric mobility sector needs a clear vision on EV charging pilots, standardized and smart charging network for LEVs, planning, and electrification of urban bus fleets, and strong charging infrastructure for Tier-I or Tier-II cities.

At AEEE, we have an equal understanding of the electricity distribution system and electric mobility sector. Our distinct approach, research and close engagement with utilities, industry players, peer organisations and implementing agencies will help in leveraging a comprehensive understanding of electricity and electric mobility sectors leading to the creation of a sustainable, vibrant, and matured ecosystem for both the focus areas.

State and Local Actions

To realize AEEE's vision & mission and for effective EE implementation, it is necessary to engage with states and local government. The states have complete authority in the energy demand sectors and can, thus formulate and implement state-specific policies and programmes by setting EE targets. AEEE's expertise & domain knowledge of EE in Buildings, Cooling, Power Utilities & Electric Mobility can be robustly applied in the energy demand sectors- that are state & concurrent subjects.

At AEEE, our strategic vision is to partner with other peer organizations for capacity building and primary research that could help us in conducting large scale surveys or data collection for AEEE-SLA state-specific inputs. Our Triple Sector Approach can straddle the gap between the central government, the state government deparments and industry will help us in the implementation of EE in States. With the change in dynamics of priorities at the State government level, AEEE 's ability to raise funds will be a win-win strategy to achieve the state-level goals and in turn the national level goals.

Workshops

Stakeholder Consultations & Workshops

Roundtable on EV Charging Tariff Framework

AEEE with support from Shakti Sustainable Energy Foundation organised a roundtable on aspects of EV charging tariff framework which could potentially impact the commercial viability of EV charging businesses, cost of driving EV, and the cost recovery of utilities. The program had regulatory experts, practitioners from power utilities, charging service providers, fleet operators, consulting firms, and think tanks in participation. Making EV a consumer category, application of demand charge, the introduction of ToD/ ToU tariffs, the applicability of taxes and surcharges were highlighted.

Super-Efficient Appliances Stakeholder's Meet

AEEE collaborated with the Clean Energy Access Network (CLEAN) to facilitate a focus group discussion on Energy Efficient Appliance Penetration in the Indian off-grid market. The discussion with the key practitioners working in the off-grid sector is aimed at addressing challenges of limited energy access across India. The discussion

focused on the penetration potential of energy-efficient appliances both for households as well as small businesses catering to rural communities. The significance of energy efficiency as a resource for energy access was highlighted.

Stakeholder Discussion on Cold-Chain Energy Efficiency in India

AEEE participated in a stakeholder consultation meeting to discuss Policy and Regulatory Options on Energy Efficiency opportunities in pack-houses in India. The workshop marked the participation of more than 50 delegates with distinguished speakers from the cold-chain sector. The discussion prioritized three primary objectives that include observations by AEEE on packhouses operation, energy efficiency status in the design of pack-houses, and the role of low energy and energy-efficient technologies in the overall energy efficiency of the pack-houses.

National Partnership on Energy Efficient Policies (Roundtable meeting on de-carbonizing India's Residential Buildings between GBPN, AEEE and CEPT University)

On September 12, a three-way MoU titled "A policy strategy for de-carbonizing the residential building sector in India" was signed between Global-Building-Performance-Network (GBPN), AEEE and CEPT Research & Development Foundation followed by a roundtable discussion. The discussion focussed on government perspective on affordable housing and implementation of ECBC-R followed by a second scene-setting session discussing GBPN Project Activities and Objectives. The roundtable was attended by a robust representation of stakeholders including International Finance Corporation

(IFC), Bureau of Energy Efficiency (BEE), World Resource Institute (WRI), Swiss Agency for Development and Cooperation (SDC), National Institute of Urban Affairs (NIUA), the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ).

Workshop on R&D and Innovation in Cooling and Refrigeration

On May 6, 2019, AEEE facilitated a day-long workshop jointly hosted by DST-MoST, MoEFCC, BEE titled R&D and Innovation in Cooling and Refrigeration that saw a packed audience filled to capacity at the India Habitat Center and far exceeded expectations. Most speakers whether representing industries, think tank, academic research or government reiterated how the program was a unique and reassuring representation or cross-sectoral collaboration. Ms. Geeta Menon, Joint Secretary Ozone Cell, MoEFCC and Dr. J.B.V Reddy from DST, MoST both congratulated AEEE for the GCP event coordination success and wide digital media engagement, amplification and end to end co-ordination. Approximately 55 persons participated in the workshop.

Workshop on Electric Vehicles Charging Infrastructure

On September 9, 2019, a workshop on Cost-Effective Standardised Equipment for Electric Vehicle Charging Infrastructure, was jointly organised with the Department of Science and Technology. The workshop aimed at accelerating the deployment of adequate charging infrastructure in India by 2030 and the development of charging standards, charging devices, and supply chain. Participants included Mr Sajid Mubashir, senior scientist at DST and head of the charging standard committee, and Mr Anil Srivastava, a senior officer at NITI Aayog for E-mobility. Over 60 senior officials

from leading charging technology suppliers, charging service providers, and OEMs joined the discussion.

All the three power utilities of Delhi took part in the workshop. The event was featured by a leading auto magazine, Auto Tech Review.

NMHS Project Inception workshop

AEEE participated in a roundtable discussion in Uttarakhand that focused on the preparation of a roadmap for residential building energy optimisation for an adaptive thermal comfort in a cold climate. The workshop helped in addressing critical urban issues in Residential and Transport sector of Uttarakhand.

Webinar

Webinars on the Global Cooling Prize

The Global Cooling Prize team team has organised webinars from April to July to increase participation, clarify on technical application guidelines and on Prize criterion, etc. All these webinars also helped increase the participation of Indian applicants including Mahindra, Godrej, Samsung India, Danfoss India, etc.

The webinars were hosted keeping in mind both held – once in the US time and another in the India Standard time. The following webinars have been held during the reporting period and have been amplified using emailer campaign and social media postings:

- **April 2019** Detailed Application Form
- **May 2019** Protecting your Intellectual Property
- **July 2019** Testing Protocol

AEEE Events Calender 2019-20

No.	Event Type	Theme	Venue	Date	Participants
1	Webinar	Webinar on Global Cooling Prize	Online	April	Supporting Partner of RMI
2	Webinar	Webinar on Global Cooling Prize	Online	May	Supporting Partner of RMI
3	Webinar	Webinar on Global Cooling Prize	Online	June	Supporting Partner of RMI
4	Webinar	Webinar on Global Cooling Prize	Online	July	Supporting Partner of RMI
5	Training	17th Round of Certified M&V Professional Training & Examination program	Bangalore	25-27-July	13
6	Webinar	Webinar on Global Cooling Prize	Online	August	Supporting Partner of RMI
7	Webinar	Presentation of the findings of the study “Charging India’s Bus Transport”	New Delhi	21 August	65
8	AGM	AEEE’s 11th Annual General Meeting	New Delhi	29 August	Members
9	Stakeholder consultation	On Charging India’s Bus Transport”	New Delhi	9 September	61

No.	Event Type	Theme	Venue	Date	Participants
10	Roundtable-meeting	GBPN	New Delhi	12 September	24
11	Round-table meeting	Good Energise	New Delhi	12 September	23
12	Stakeholder consultations	Cold-chain energy efficiency in India	New Delhi	4 October	53
13	Strategy Meeting	AEEE STRATEGY RETREAT (Executive Council Members only)	New Delhi	23 October	EC members
14	Roundtable Discussion	Roundtable on EV Charging Tariff Framework	New Delhi	31 October	16
15	Workshop	NMHS Project Inception workshop	Dehradun	1 November	32
16	Stakeholder consultations	2nd Stakeholder discussion on Cold-Chain energy efficiency in India	New Delhi	14th November	39
17	Workshop	Finalists Award Ceremony Global Cooling Prize (GCP)	New Delhi	15th November	265
18	Launch Event	SEEI 2019 Launch	New Delhi	10th January 2020	By Govt. of India
19	EE Conclave	Energise 2020: Energy Innovation for a Sustainable Economy	Hyderabad	10-13 February 20	245
20	Exhibition	Energise 2020: Energy Innovation for a Sustainable Economy	Hyderabad	10-13 February 2020	13
21	Launch Event	Increasing Energy Access by Using Super-Efficient Appliances in Rural Homes and Productive Businesses: India Stakeholders Mapping Report Launch	Hyderabad	11th February 2020	During energise 2020
22	Training	The next 18th Round Certified M&V Professional Training & Exam	New Delhi	27-29 February 2020	27

Training

Certified M&V Professional Training & Exam

Alliance for an Energy-Efficient Economy (AEEE) organised 17th and 18th IPMVP training & CMVP® certification program that took place on 25-27-Jul, 2019, and February 27-29, 2020 in Bangalore and New Delhi respectively. The training program was designed in conjunction with the Efficiency Valuation Organization (EVO) and the Association of Energy Engineers (AEE). The participants at the training represented a wide range of large corporate entities as well as small consulting companies and individual auditors. The CMVP program recognizes the most qualified professionals in the competitive area of energy efficiency. The program fosters a superior level of professional standards within the measurement and verification field.

Impact

Events

AEEE participation in the Global Cooling Prize side event at the Global Climate Action Summit

On September 13, 2019, the Global Cooling Prize team lead and participated in the global event the Global Climate Action Summit in San Francisco.

Rocky Mountain Institute and Conservation X Labs hosted “The Cooling Challenge: Cooling for All, without Warming the Planet,” an affiliate event to the Global Climate Action Summit. The event hosted a panel discussion on the unprecedented opportunity to confront the single largest end-use risk to our climate—growing demand for residential air conditioning—while providing life-improving cooling solutions for billions of people. The discussion featured representatives from the Children’s Investment Fund Foundation (CIFF), Rocky Mountain Institute (RMI), Conservation X Labs, and Alliance for an Energy Efficient Economy (AEEE). The panel was followed by a networking reception with global leaders in innovation, finance, technology, and government.

Finalists Award Ceremony Global Cooling Prize (GCP)

The world needs a breakthrough residential air-conditioning technology; one that meets the world's booming demand for cooling without contributing to runaway climate change. 445 teams from 56 countries submitted their initial concepts and 8 finalists cut the Global Cooling Prize Finalist Award Ceremony on November 15, 2019. As an operating council member for the Global Cooling Prize Finalist award ceremony, Team AEEE, worked closely with the prize initiators Rocky Mountain Institute (RMI) & India and Department of Science and Technology, Mission Innovation, Government of India, and other operating council members RMI, CEPT University and Conservation X Labs to execute a successful ceremony. Union Minister of Science and Technology, Earth Sciences, Health, and Family Welfare, Dr Harshvardhan, delivered the inaugural address with Dr Ashutosh Sharma, Secretary DST, Ms Geeta Menon, Joint Secretary MoEFCC, Shri Abhay Bakre, DG, BEE, and John Roome, Head South Asia, World Bank were in participation. The Global Cooling Prize has awarded $2 million to all of the innovator finalists who are now developing a Room AC (RAC) technology testing prototype that has 5X less impact that a typical Room AC in the market today. The finalists will develop one prototype to a lab for ISEER testing, which includes the unit being installed in an apartment complex in India to evaluate its performance in real-time over one month. The grand winner of the Cooling Prize will be awarded up to US$1 million in prize money for the team's breakthrough cooling solutions.

State Energy Efficiency Index 2019 Launch

The Bureau of Energy Efficiency (BEE), Ministry of Power on January 10 released the 'State Energy Efficiency Index 2019', which tracks the progress of Energy Efficiency (EE) initiatives in 36 states and union territories based on 97 significant indicators. AEEE developed the index under the guidance and leadership of (Bureau of Energy Efficiency) BEE, with technical counsel from American Council for an Energy Efficient Economy (ACEEE) and support from MacArthur Foundation.

The Index will help states contribute towards national goals on energy security and climate action by

- Helping drive EE policies and program implementation at the state and local level
- Tracking progress in managing the states' and India's energy footprint
- Institutionalising data capture and monitoring of EE activities by states

The State Energy Efficiency Index 2019 incorporates qualitative, quantitative, and outcome-based indicators to assess energy efficiency initiatives, programs, and outcomes in five distinct sectors – buildings, industry, municipalities, transport, agriculture, and DISCOMs. The new indicators that were added in 2019 were the adoption of Energy Conservation Building Code (ECBC) 2017, energy efficiency in MSME clusters, etc.

Energise 2020: Energy Innovation for a Sustainable Economy

To drive the broader narrative by shaping the future trends of energy efficiency in India, Alliance for an Energy Efficient Economy (AEEE) with support from MacArthur Foundation and American Council for an Energy-Efficient Economy (ACEEE) organised energise 2020: Energy Innovation for a Sustainable Economy, from 11-13 February 2020, in the vibrant city of Hyderabad. This conclave was prefaced with a pre-event on 10 February 2020. AEEE designed the conference to offer an enabling platform for the torchbearers of energy efficiency and sustainability from three diverse stakeholder groups – the public sector, the private sector, and the civil society.

With over 245 registered participants from India and abroad, 70+ speakers from 8 different countries, 40+ technical experts, the 4-day conclave was divided into numerous plenaries, panel discussions, round tables, 52 peer-reviewed paper presentations, and Technobuzz exhibition. Engaging discussions took place on topics ranging from energy transition strategies, Data-driven energy efficient policies, India Cooling Action Plan, Effective business models, e-mobility infrastructure, implementation EE policies in states, and Role of Partnerships to accelerate sustainable development.

The conclave saw sectoral participation from key government representatives and policymakers who shared the stage with businesses, civil society, students, and academicians of energy and sustainability. Apart from this, global participation with representatives from Austria, France, Germany, Japan, Switzerland, Thailand, UK, and the United States was also witnessed during the conclave.

Technobuzz, the conclave's business enablement space showcased innovative and smart models and technologies that can nudge India's energy efficiency culture in India.

The conference was kept sustainable in many ways with plantable seed calendars as promotional, canvas backdrops replacing flex, glass bottles replacing single-use plastic bottles, paperless proceedings, and an electric taxi fleet as a travel partner. The conference also noted private sector sponsors like Danfoss, Grundfos, Carrier, EESL, Oorja, Saint-Gobain, Siemens, Schneider Electric, Tabreed, cKinetics. Peer support was noted in CEPT University (CRDF), Council on Energy, Environment and Water (CEEW),Clean Energy Access Network (CLEAN), National Research Development Corporation (NRDC) and Prayas (Energy Group) and the conference received significant government and diplomatic support from Ministry of Environment, Forest & Climate Change (MoEFCC), Department of Science & Technology (DST), Bureau of Energy Efficiency (BEE), Niti Aayog, and the British High Commission.

National Impact

AEEE's LEED certification

Tackling climate change impact can start with greening our built spaces! This year AEEE achieved USGBC's LEED Platinum certification under the interior designs and construction category. In a little over 3000 sqft, AEEE has designed a workspace that both saves energy and money while enhancing performance and comfort, with the right kind of innovative technology to reduce the long-term real costs. AEEE's adoption of energy efficiency has enabled the organization to achieve overall energy saving of 25% over ASHRAE 90.1 (2010) baseline. The predicted energy performance index of our workspace is 85 kWh/m2 per year, which will annually save 49% more energy, compared to a conventional office. The additional cost increment is only 6-8%, which can be recovered over the next 18-24 months. We have applied for 81 credits and received 81 points. We are almost certain that no other office building of this size (less than 5,000 sq. ft.) has received LEED Platinum status and probably the first non-profit organization to receive this status - not counting GBCI's own office in NCR.

Global Impact

AEEE is the only organisation in India that works towards creating awareness about energy efficiency as a resource. It is committed to positioning energy efficiency as the first fuel in India and to ensuring that every organisation in every sector has energy efficiency embedded as a core value and mission.

2019-20 was a big year for Alliance for an Energy Efficient Economy. AEEE have undertaken many small but mighty moves leading to unparalleled growth in diverse directions, meaningful dialogue with a range of partners, along with global presence. Here are some of AEEE's impacts from the past year:

AEEE joined 'The Cool Coalition' and the 'Three Percent Club' during the UN Climate Action Summit

Dr. Satish Kumar, President, and Executive Director AEEE represented AEEE at the "We will: Efficient, Clean Cooling for All" event in New York during the UN Climate Action Summit. Hosted by the Kigali Cooling Efficiency Program, in partnership with the Cool Coalition and EP100, the program saw participation from government, business, civil society, and UN environment discussing decisive climate action to meet Paris climate goals. Increasing access to cooling was prioritized with the signing of the Cool Coalitions - a global multi-stakeholder network that connects key actors including government, international organizations, financial institutions, academia and civil society to facilitate, advocacy, and collaborative action on cooling. AEEE joined the Cool Coalition to fortify global efforts in the deployment of energy-efficient technology in our core sectors of building, transportation, appliances, and energy with our evidence-based research efforts.

During the same summit, a coalition of countries, businesses, and international organizations called the ThreePercentClub committed to driving an annual% global improvement rate in energy intensity. The target is to save over half a trillion dollars in household energy bills per year by 2040. The 15 countries supporting the coalition includes India. AEEE joined the club as a civil society organization committed to India's national plans of concrete and immediate action.

31st Meeting of the Parties (MOP 31) to the Montreal Protocol, Rome

In 2019, India made history as one of the first countries to launch a comprehensive national cooling action plan. The Indian government, along with experts from civil society partner organizations, shared the story of the development of the ICAP, at the side event titled "Facilitating the Implementation of the India Cooling Action Plan", at the 31st MOP in Rome on November 8, 2019. The side event organized by The Energy and Resources Institute (TERI), Alliance for an Energy Efficient Economy (AEEE), Council on Energy, Environment, and Water (CEEW) and Natural Resources Defense Council (NRDC) also highlighted the evolving implementation strategies for the ICAP, as it enters its implementation phase, now. The event provided an opportunity to reinforce the need for strong stakeholder engagement, synchronization in policies, access and assimilation of technologies, and access to finance implementation the cooling plan.

Participating in the program, Dr. Satish Kumar, President and Executive Director of the Alliance for an Energy Efficient Economy (AEEE) highlighted ICAP as an exemplary showcase of triple-sector leadership from the government, private and civil society.

12 strategies to step up global energy efficiency

The International Energy Agency (IEA) reports that in 2018, the primary energy intensity–an important indicator of how much energy is used by the global economy–improved by just 1.2%, the slowest rate since 2010. To assert strong action, AEEE joined forces with the European Council for an Energy Efficient Economy (eceee), and the American Council for an Energy-Efficient Economy (ACEEE), with a joint 12-strategies, report to step up global energy efficiency. The report was submitted to IEA's high-level commission for urgent action on energy efficiency on the sidelines of COP 25 in Madrid, Spain.

The three organisations promoted several principles that support energy efficiency strategies. Among these are energy sufficiency and circular economy, with adequate focus on the multiple benefits of energy and work to track progress and ensure proper design to avoid expensive mistakes.

The Cooling Imperative

AEEE's cooling research and analysis work was extensively amplified with inclusion in 'The Economist' special report of "The Cooling Imperative".

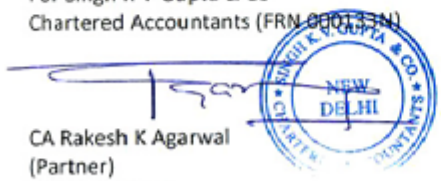
2019-20 Balance Sheet

ALLIANCE FOR AN ENERGY EFFICIENT ECONOMY

BALANCE SHEET AS AT 31ST MARCH 2020

LIABILITIES	Note		AMOUNT (RS.)	ASSETS	Note		AMOUNT (RS.)
Corpus Fund	1		2,29,55,517	**Property, Plant and Equipment**			
				Project Related	6	1,07,08,483	
Capital Grant Reserve	2		1,07,08,483	Others	6	5,81,076	1,12,89,559
Current Liabilities				**Investments**	7		92,99,436
Expenses and Other Payables	3	1,02,26,971					
Duties and Taxes	4	24,31,773		**Current Assets**			
Grant Balances	5	4,36,31,101	5,62,89,845	Interest Accrued on FDR			93,270
Membership Fees Received in advance			11,75,002	**Cash & Bank Balances**	8		7,42,93,538
Income & Expenditure Account				**Other Current Assets**			
Opening Balance		84,48,153		Prepaid Expenses		3,62,545	
Add: Excess of Income over				TDS Receivable	9	7,02,150	
Expenditure of Current Year		1,92,31,319		Income Receivable	10	43,00,015	
Less: Transferred to Corpus Fund		(1,50,00,000)	1,26,79,471	Other Current Assets	11	34,67,806	88,32,516
Total			**10,38,08,318**	**Total**			**10,38,08,318**

As per our report of even date
For Singh K V Gupta & Co
Chartered Accountants (FRN 000133N)



CA Rakesh K Agarwal
(Partner)
M. No. 085908

Place: New Delhi
Date: 24/06/2020

For Alliance for An Energy Efficient Economy

(Secretary)

Satish Kumar
Secretary
Alliance For an Energy Efficient Economy

(Chairman)

Chairperson
Executive Council
Alliance For an Energy Efficient Economy

ALLIANCE FOR AN ENERGY EFFICIENT ECONOMY

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

EXPENDITURE	AMOUNT (RS.)	INCOME	AMOUNT (RS.)
FCRA Project Related Expenditure		**FCRA Projects Receipts & Grants**	
MacArthur Foundation	3,53,16,327	Grant Received (MacArthur Foundation)	3,53,16,327
Good Energies Foundation	1,40,52,251	Grant Received (Good Energies Foundation)	1,40,52,251
Oak Core Grant	48,19,020	Grant Received (Oak Core Grant)	48,19,020
ESCO Market II	4,84,415	Grant Received (ESCO Market)	4,84,415
Space Cooling 2	6,01,648	Grant Received (Space Cooling 2)	6,01,648
Support in Building Capacity of Partner Org.	45,11,633	Grant Received (Support in Building Capacity of Partner Org.)	1,50,00,000
Electric Vehicle	67,10,885	Grant Received (Electric Vehicle)	67,10,885
Green Vehicle Rating- II	1,53,434	Grant Received (Green Vehicle Rating- II)	1,53,434
GBPN	22,15,842	Grant Received (GBPN)	22,15,842
CIFF	3,32,640	Grant Received (CIFF)	3,32,640
Non- FCRA Project Related Direct Expenditure		**Non-FCRA Direct Income**	
Professional Services Contract: ACEEE	18,87,618	ACEEE - Consultancy Income	23,32,246
World Bank Group	64,02,100	World Bank Group - Consultancy Income	81,58,436
Global Cooling Prize- DST	56,59,296	Grant Received (Global Cooling Prize- DST)	56,59,296
NMHS	24,70,022	Grant Received (NMHS)	24,70,022
CMVP Training & Certification Expenses	17,80,294	CMVP Training, Certification & Renewal Fees	31,97,833
Energise 2020	6,000	Sponsorship / Other Receipts - Energise 2020	35,54,004
		Membership Fees (New / Renewal) Received	14,15,132
Administrative Expenses		**Other Income**	
Depreciation	21,37,739	Bank Interest Received	5,73,613
Administrative Expenses	2,79,269	Interest Received on FDR	4,91,235
Loss on Sale/Disposal of Fixed Assets	17,01,123	Interest on IT Refund	66,556
		Misc. Income	3,341
Excess of Income over Expenditure	1,92,31,319	Transfer from Capital Grant Reserve	31,44,699
Total	**11,07,52,875**	**Total**	**11,07,52,875**

As per our report of even date
For Singh K V Gupta & Co
Chartered Accountants (FRN 000133N)

CA Rakesh K Agarwal
(Partner)
M. No. 085908

Place: New Delhi
Date: 24/06/2020

For Alliance for An Energy Efficient Economy

(Secretary)

Satish Kumar
Secretary
Alliance For an Energy Efficient Economy

(Chairman)

Chairperson
Executive Council
Alliance For an Energy Efficient Economy

ALLIANCE FOR AN ENERGY EFFICIENT ECONOMY

RECEIPT & PAYMENT ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2020

RECEIPTS	AMOUNT (RS.)	PAYMENTS	AMOUNT (RS.)
Opening Cash & Bank Balances	7,16,16,691		
FCRA Projects Receipts & Grants Received		**FCRA Project Related Payments**	
Grant Received (MacArthur Foundation)	3,67,61,250	MacArthur Foundation	2,83,91,698
Grant Received (Good Energies Foundation)	-	Good Energies Foundation	1,43,94,766
Grant Received (Oak Core Grant)	-	Oak Core Grant	48,29,273
Grant Received (ESCO Market)	-	ESCO Market II	6,27,975
Grant Received (Space Cooling 2)	-	Space Cooling 2	7,71,974
Grant Received (Support in Building Capacity of Partner Org.)	1,50,00,000	Support in Building Capacity of Partner Org	39,20,831
Grant Received (Electric Vehicle)	52,58,221	Electric Vehicle	66,81,299
Grant Received (Green Vehicle Rating- II)	62,16,602	Green Vehicle Rating- II	1,41,592
Grant Received (GBPN)	33,37,231	GBPN	21,07,797
Grant Received (CIFF)	-	CIFF	2,57,397
Grant Received (NMHS)	14,37,290	NMHS	-
Non- FCRA Direct Receipts		**Non-FCRA Project Related Direct Payments**	
ACEEE - Consultancy Income	27,16,271	Professional Services Contract: ACEEE	16,39,256
World Bank Group - Consultancy Income	55,74,886	World Bank Group	63,87,822
Grant Received (Global Cooling Prize- DST)	2,31,168	Global Cooling Prize- DST	53,38,104
Grant Received (NMHS)	77,81,016	NMHS	35,39,474
CMVP Training, Certification & Renewal Fees	31,97,833	Energise 2020	6,000
Sponsorship / Other Receipts - Energise 2020	51,18,665	CMVP Training & Certification Expenses	11,61,955
Membership Fees (New / Renewal) Received	6,56,000	Administrative Expenses	1,62,882
Consultancy Others	16,24,364		
Other Income Received		**Other Payments**	
Interest Received on FDR	4,64,023	Fixed Assets purchased during the year	1,13,95,564
Interest on IT Refund	66,556	Investment in Bank FDR's	30,20,178
Bank Interest	19,41,596	TDS on Bank FDR Interest Income/ Other Income	4,11,425
Misc. Income	3,339	GST Paid	17,780
Membership Fees Received	1,00,000	Unutilised Grant Refunded to Shakti Foundation	1,35,056
		Security Deposit for Office	16,50,000
		Security Deposit on CCD Machine	25,000
Other Receipts		TDS Deposited	14,63,712
Fixed Assets sold during the year	1,70,500		
Refund of Office Security Deposit	3,50,000	**Closing Cash & Bank Balances**	7,42,93,538
Income Tax Refund received during the year	7,82,664		
Corpus Fund received during the year	2,50,000		
TDS Collected and unpaid as at year end	21,16,179		
Total	**17,27,72,346**	**Total**	**17,27,72,346**

As per our report of even date
For Singh K V Gupta & Co
Chartered Accountants (FRN 000133N)

CA Rakesh K Agarwal
(Partner)
M. No. 085908

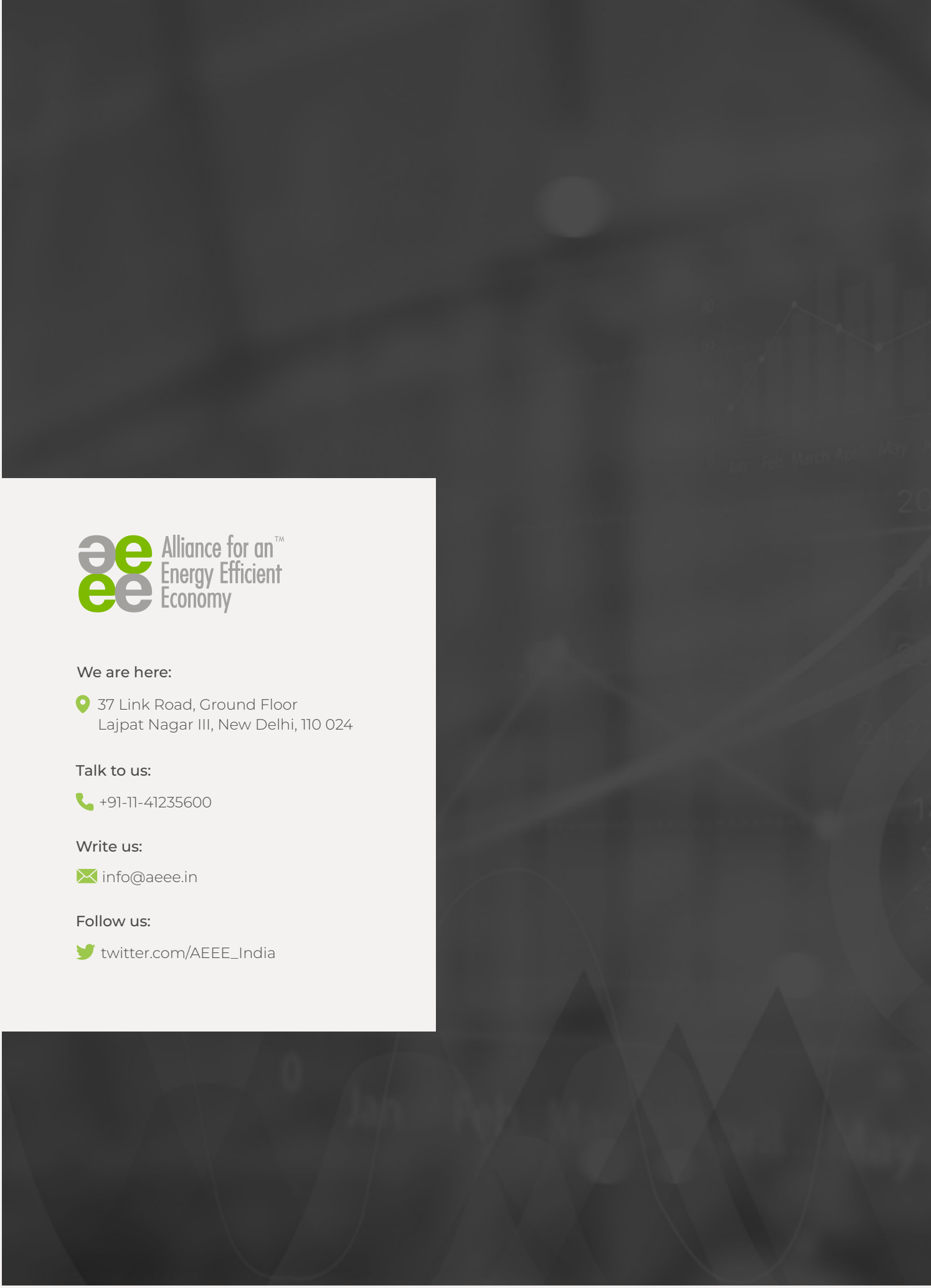
Place: New Delhi
Date: 24/08/2020

For Alliance for An Energy Efficient Economy

(Secretary) (Chairman)

Satish Kumar
Secretary
Alliance For an Energy Efficient Economy

Chairperson
Executive Council
Alliance For an Energy Efficient Economy



Alliance for an Energy Efficient Economy™

We are here:

37 Link Road, Ground Floor
Lajpat Nagar III, New Delhi, 110 024

Talk to us:

+91-11-41235600

Write us:

info@aeee.in

Follow us:

twitter.com/AEEE_India