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PROGRAMME

Conference on Clean Tech Environment 2019 4 February 2019, Hall No. 7FGH1, Pragati Maidan, New Delhi	
1030-1130 hrs	<p style="text-align: center;">Inaugural: Clean Tech Environment</p> <p>Opening remarks</p> <ul style="list-style-type: none"> • Ms. Seema Arora, Deputy Director General, Confederation of Indian Industry <p>Address</p> <ul style="list-style-type: none"> • Mr. Puneet Munjal, Chief - Power Management, Business Development & Contracts, Tata Power-DDL <p>Keynote address</p> <ul style="list-style-type: none"> • Shri Ajay Shankar, Former Secretary, Department of Industrial Policy and Promotion, Government of India <p>Keynote address</p> <ul style="list-style-type: none"> • Shri Jitendra Kumar, Adviser, NITI Aayog
1130-1300 hrs	<p style="text-align: center;">Clean Tech in Waste Management</p> <p>Management of waste has become a matter of grave concern in most urban areas in India with an unprecedented increase in all kind of wastes – municipal waste, e-waste, industrial hazardous and non-hazardous wastes. The volume of waste is projected to increase from 64-72 million tonnes at present to 125 million tonnes by 2031 in India. It is challenging to manage waste in an environmentally sustainable manner. The adoption of clean technologies by industries can effectively turn waste into resources or appropriately dispose it. The session aims to discuss the various clean technology initiatives by stakeholders to manage waste in an environmentally sound, socially responsible and economically viable manner.</p> <p>Session Chairman & Moderator</p> <ul style="list-style-type: none"> • Mr. Ulhas Parlikar, Global Consultant (Waste Management, Circular Economy, Policy Advocacy & Co-processing) <p>Panelists</p> <ul style="list-style-type: none"> • Mr. Rajesh Gauba, Vice President- Recycling and Sustainability, Reliance Industries Limited • Mr. Sanjib Bezbaroa, Vice President – EHS, ITC Limited • Dr. Renu Khosla, Director, Centre for Urban and Regional Excellence (CURE) • Mr. Arvind Singhal, Managing Director, DETS Limited
1300-1400 hrs	Lunch
1400-1530 hrs	<p style="text-align: center;">Clean Tech Solutions for Air Pollution</p> <p>Challenges pertaining to air pollution are increasing in cities of India. Majority of cities are caught in a toxic web as air quality fails to meet health-based standards. During early part of November 2018, Delhi's air quality index had jumped to 574, which falls in the "severe-plus emergency" category according to data by SAFAR (System of Air Quality and Weather Forecasting and Research). Maintaining a clean and healthy urban environment is therefore not just crucial in sustaining economic growth but necessary for us to mitigate the larger issues related to air pollution. The session will</p>

	<p>deliberate on clean technologies which can be adopted to fight air pollution, making our air healthier to breathe, protecting nature and boosting the economy.</p> <p>Session Chairman & Moderator</p> <ul style="list-style-type: none"> • Mr. George C Varughese, Independent Strategic Advisor <p>Panelists</p> <ul style="list-style-type: none"> • Mr. Anupam Mathur, Sales Director - Connected Living Solutions, Honeywell India Ltd. • Mr. Ajay Poddar, Managing Director, Syenergy Environics Ltd • Mr. Shakeb Ajaz, Manager, Corporate Sales, Chakr Innovation Pvt. Ltd.
1530-1600 hrs	Networking break
1600-1730 hrs	<p style="text-align: center;">Low Carbon Technology for Indian Industry</p> <p>India's domestic R&D on technology and specifically low-carbon technology is fairly low in comparison to developed economies, and also transfer of low carbon technology from developed economies has also been dismal. Both of this challenge being not answered, will mean that India grows unsustainably. What India lacks right now is a detailed Low-Carbon Technology needs assessment for each of its sector and an implementable technology action plan for each sector. The session is designed to understand from the panelist the following areas; on what factors can drive low carbon technology adoption in India when identified, factors which act as barriers in implementing a technology which has huge potential in reducing GHG emissions.</p> <p>Session Chairman & Moderator</p> <ul style="list-style-type: none"> • Mr. Joe Phelan, Director, WBCSD India <p>Panelists</p> <ul style="list-style-type: none"> • Dr. Gautam Goswami, Director (Scientist - F), TIFAC, Department of Science and Technology • Mr. Siddharth Chatpalliwar, Program Manager (Climate Policy), Shakti Sustainable Energy Foundation • Dr. Anand Shukla, Senior Advisor – Energy, Swiss Cooperation Office India, Embassy of Switzerland

Inaugural Session

Shri Jitendra Kumar, Advisor NITI Aayog, Shri Ajay Shankar, Former Secretary, Department of Industrial Policy and Promotion, Government of India, Mr. Puneet Munjal, Chief - Power Management, Business Development & Contracts, Tata Power-DDL and Ms. Seema Arora, Deputy Director General, CII inaugurated Clean Tech Environment Conference 2019, held on 4 February, as part of the International Engineering Trade Fair (IETF) 2019. Attended by around 70 participants, the conference brought together sustainability experts, the business community, government representatives and various stakeholders. The deliberations focused upon the issues of challenges pertaining to air pollution and waste management that are increasing in the cities of India and how these issues need to be tackled in a comprehensive way through systematic implementation of ideas and solutions.

Shri Jitendra Kumar, Advisor NITI Aayog in his keynote address said, "India's needs the best technologies to address all development issues, but it should address 3 pillars - growth, social inclusion and environmental protection. We need to contribute on an individual level, such as going zero plastic at our own homes. Technology can be used to clean air, water and gives zero emissions. But first we all need to pledge to be resource-efficient in our homes and lives."

"Control of air pollution, water pollution and land pollution are our govt's top priority. As cities will be the drivers of economic growth, our challenge is to manage the carbon. We need ecological security to ensure security of energy, food and other resources. We have committed to the world to become carbon negative by 2030. Our Energy target is 175 GW RE by 2022," he added.

Addressing the gathering **Shri Ajay Shankar, Former Secretary, Department of Industrial Policy and Promotion, Government of India** said, "We are faced with the crisis of Global Warming. Future of mankind is at risk; health of our children is at risk. The problems of our times have been created by technology and the solution also lies in technology. #Greentech will only help us leapfrog into being sustainable. The subject of Cleantech is collectively crucial for the Human civilisation. To get a breakthrough in sustainability in the country, various organisations must align with the government to make it happen. The creative challenge is to get latest technology to get it adopted quickly."

Shri Puneet Munjal, Chief - Power Management, Business Development & Contracts, Tata Power-DDL highlighted that greenhouse gases are an issue which is contributed by power generation. 70% of power in India is produced using fossil fuels. He further said that, "Power sector is headed for exciting and challenging times - a defining moment for the industry. We are looking at new clean ways and a roof top revolution. We (Tata Power) are committed to reduce carbon footprint & by 2040 we will see RE rise substantially."

Ms. Seema Arora, Deputy Director General, CII in her opening address said, "The Clean Tech Environment Conference 2019 will create an eco-system where Clean Tech becomes mainstream, where deployment can be scaled, and sustainability is addressed as the major parameter of growth and success."

She also emphasised that "Cleantech is not just for urban areas but must reach rural areas. CII is committed to Clean Air in North India. We are reaching out to & recognising those farmers who are not burning stubble in Punjab and hope this step gives encouragement to others to devote themselves to tackling this critical problem."



L to R: Ms. Seema Arora, Deputy Director General, Confederation of Indian Industry, Shri Jitendra Kumar, Adviser, NITI Aayog, Shri Ajay Shankar, Former Secretary, Department of Industrial Policy and Puneet Munjal, Chief - Power Management, Business Development & Contracts, Tata Power-DDL



Shri Jitendra Kumar, Adviser, NITI Aayog

Clean Tech in Waste Management

Waste is a menace that has been an important concern for a long time. The most important aspect of waste management is to dispose wastes in the most sustainable way. With respect to the most sustainable way, majority of agencies stress on making use of technologies in order to break down wastes. While technology is not only about equipment and machinery to dispose the waste, it is more about taking care of where the waste is and how to judiciously utilize the waste. Technology in waste management is about integration of data and waste categories, so that an environment friendly disposal and reuse can be achieved. Waste management has to be made a contagious habit by each of us to move towards a more sustainable future.

Challenges

The most important challenge in handling of wastes is that there is no take-up of these wastes. India being a consuming society, the paramount responsibility lies with all the stakeholders involved in generation and management of these wastes. However, lacuna and gaps arise in understanding and declaring the obligations and responsibilities of these stakeholders in managing wastes. Secondly, until now there has not been an effective system in place with respect to regulatory bodies. An effective enforcement platform would help in streamlining the responsibilities of each stakeholder in order to control the menace of wastes.

Proposed Solutions:

- Digital Platform would help in traceability of waste and a more responsible management of wastes, especially plastic wastes and electronic wastes.
- Government intervention would add value in better management of wastes.
- Community involvement and participation will have a huge impact in successfully managing waste issues.
- Judicious management of waste through recovery and recycling will be effective only when the ways to reuse these wastes are correct.



L to R: Dr. Renu Khosla, Director, Centre for Urban and Regional Excellence (CURE), Mr. Sanjib Bezbaroa, Vice President – EHS, ITC Limited, Mr. Ulhas Parlikar, Global Consultant (Waste Management, Circular Economy, Policy Advocacy & Co-processing), Mr. Arvind Singhal, Managing Director, DETS Limited, Mr. Rajesh Gauba, Vice President- Recycling and Sustainability, Reliance Industries Limited

Clean Tech Solutions for Air Pollution

Air pollution is globally the fourth largest cause of death and 3 million people die every year out of which 11 lakhs are in India. In 2017, more than 1 million people died because of air pollution out of which 6.5 lakh people are from the urban areas and 4.5 lakh people from rural areas. Pollution needs to be addressed at the source, so no causality happens. We breathe around 50,000 liters of air every day and we are quite specific about the water we drink but not about the air we breathe. This needs behavioural transformation and awareness about air pollution.

Challenges

- Regulatory- weak enforcement of environmental standards. There should be a stringent and effective enforcement platform. This would help in streamlining the responsibilities of each stakeholder to control the menace of air pollution.
- Financial- funds and govt support are inadequate w.r.t expansion of R & D of technologies to address air pollution.
- Social-indoor air pollution in rural areas is a huge problem. Three- quarter of people living in rural India cook with fossil fuels and a woman in rural India is exposed to smoke which is equal to smoking 400 cigarettes in a day. Public awareness about air pollution is a major problem.
- Environmental- rapid urbanization, biomass burning, transportation and industrial pollution are major challenges which need to be addressed.

Proposed Solutions

- Public pressure is required to push government so that changes can transpire. The perception that air quality is mostly an industrial problem needs to be changed. Polluting industries need to move out of cities or follow environmental norms which requires strong enforcement of rules. Arcade system is not needed for road dust as we can afford to have cleaner technologies and solutions. We need to control the emissions at source to address air pollution.
- Biomass management initiative by CII-NITI Aayog in 19 villages of Punjab showed that technologies are ensured for in-situ biomass management. Air purifiers and development of green pavements can help in addressing air pollution. Electromagnetic radiation pollution is the most dangerous form of pollution and Environics chips can be used by various industries as a sustainability measure.
- Waste can be used to make commercially viable products like the Chakr Innovation, a retro-fit emission control device for diesel generators, that can convert the soot, NOx, SOx into paints, dyes, inks etc. which are commercially viable. There is a need to talk about air pollution on radar screen and investigate public policy and invest in public private partnerships for tackling this problem of air pollution.



L to R: Mr. Anupam Mathur, Sales Director - Connected Living Solutions, Honeywell India Ltd., Mr. George C Varughese, Independent Strategic Advisor, Mr. Ajay Poddar, Managing Director, Synergy Environics Ltd, Mr. Shakeb Ajaz, Manager, Corporate Sales, Chakr Innovation Pvt. Ltd.

Low Carbon Technology for Indian Industry

India's domestic R&D on technology and specifically low-carbon technology is low in comparison to developed economies, and transfer of low carbon technology from developed economies has also been dismal. Both challenges if not addressed, will mean that India grows unsustainably. What India lacks right now is a detailed low-carbon technology needs assessment and an implementable technology action plan for each sector of the industry. The session began with a mention of India's NDC targets for a low carbon economy and the need for investment and technology transfer to meet the same. Technologies required by India as identified in the second Biennial Update Report (BUR) submitted to UNFCCC in December 2018, global and domestic barriers to technology adoption, case study of small and medium enterprises such as brick kilns and need for indigenized solutions were discussed by the expert panel.

Challenges

Regulatory

- India has achieved a sufficient portion of its NDC targets with respect to reducing emission intensity by 33-35%, where currently we stand at 21%. Similarly, of the 40% renewable energy targets, 20% has been achieved. This number could be higher if large scale hydro is included. However, there is still some way to go in terms of the target to achieve a carbon sink of 2.5 to 3 billion tonnes through additional forest and tree cover.
- If India's economy is expected to grow by 10%, then emissions will be five times higher than those of 2005 levels. Similarly, if India grows at 7%, then the emissions will be three times higher than 2005 levels. India's GDP growth is dependent on its manufacturing sector which currently stands at 17-18% but is projected to increase to 25%. Therefore, this means that adoption of climate friendly technology is the only leveler for developing India.
- India's NDC targets and BUR submissions to UNFCCC are the biggest drivers for India's contribution to limiting global temperature increase to 1.5 degrees Celsius, as per the last IPCC report. As per Paris agreement, developed economies are supposed to support developing ones with funding and technology transfers, both of which have been and still continue to be a challenge.

Financial

- UNFCCC's approach to finances and technology transfer is top-down, i.e. global to national to sub-national, and this may not be the best approach. With respect to technology transfer from the developing world, it proves expensive and delays are caused as technologies are controlled by the private sector, and respective governments cannot be blamed

Social

- On the topic of integrating energy in the MSME sector, key challenges include lack of policy, as well as insufficient capacity building. The cement sector could generate less waste, use waste from other industries, as well as use alternate fuels, but it turns out to be unviable, if cement companies pay for the collection and usage of the waste of other industries.
- Currently a lot of waste, that can be recycled is incinerated due to improper segregation. It is important to recycle more waste and reduce the waste going into incineration, but scalability pan India seems impossible. It is in this scenario that technology for an automatic waste segregator could be considered.

Environmental

- There are higher GHG emissions in the energy sector, due to: generation of energy using fossil fuels, the processes involved are energy intensive themselves, product development waste generation also leads to carbon emissions. Similarly, other energy intensive sectors are cement, iron & steel, paper & pulp and agriculture.
- Plastic in the Asian subcontinent is seen dumped in oceans and seas, whereas in India, we see plastic scattered on land and water bodies which causes domestic pollution issues.

Technological

- Importance of technology transfer to achieve India's NDCs and to carry on its low carbon pathway. As per BUR 2 submitted to UNFCCC, India has identified suitable technologies from Japan, USA, Korea, Australia and the Netherlands for its low carbon growth. Industry must be clear on what component of technology they need and therefore when the transfer takes place, then it can be addressed. Even if actual technology is not transferred, the know-how is shared. Here the role of an enabling policy should coincide.

Proposed Solutions

- While India's budget on research and development of USD 72 million is considered low, owing to its participation in Mission Innovation, the R&D budget is expected to double by 2020 therefore allowing domestic solutions.
- Technology is a great leveler and a very good technology transfer policy will facilitate a low energy pathway for India.
- Technology transfer needs willingness and participation of industry. If the private sector highlights the value add of a new technology, then government will create an enabling environment, as had been done in the cement sector in India.
- Capacity building is key to technology transfer. Once a new technology has been sent to India, industry must be capable of handling, maintaining and innovating for future. Capacity building includes that of government officials / institutions, as well as that of service providers and training of operators handling the new technology.
- With respect to MSME sector, it should begin with understanding local issues, offering customised solutions. Adopting a quantitative impact model before the start of a project will help with its evaluation and for monitoring success. Potential for large scale replicability and scalability are also important considerations, when it comes to low-carbon solutions.
- Highly skilled labour will be needed over the next 15 years as we transit to smart construction. Regular upgradation and capacity building will ensure faster, cleaner and more effective implementation.
- Working towards indigenised technologies and solutions, and convening relevant stakeholders including government, civil society, financiers for relevant solutions.
- Reference was made to MoEFCC's publication called 'Parampara' which talks about the traditional lifestyles and ways of living which are climate friendly.



L to R: Dr. Anand Shukla, Senior Advisor – Energy, Swiss Cooperation Office India, Embassy of Switzerland, Mr. Joe Phelan, Director, WBCSD India, Dr. Gautam Goswami, Director (Scientist - F), TIFAC, Department of Science and Technology, Mr. Siddharth Chatpalliwar, Program Manager (Climate Policy), Shakti Sustainable Energy Foundation



CII-ITC Centre of Excellence for Sustainable Development

CII-ITC Centre of Excellence for Sustainable Development is a not-for-profit, industry-led institution that helps business become sustainable organisations. It is on a mission to catalyse innovative ideas and solutions, in India, and globally, to enable business, and its stakeholders, in sustainable value creation. It's knowledge, action and recognition activities enable companies to be future ready, improve footprints profiles, and advocate policymakers and legislators to improve standards of sustainable business through domestic and global policy interventions.

CESD leverages its role of all-inclusive ecosystem player, partnering industry, government, and civil society. It has been a pioneer of environment management systems, biodiversity mapping, sustainability reporting, integrated reporting, and social & natural capital valuation in India, thus upgrading business in India to sustainable competitiveness.

With two locations in India, CESD operates across the country and has also been active in parts of South and South East Asia, Middle East, and Africa. It has held institutional partnerships and memberships of the United Nations Global Compact, Global Reporting Initiative, International Integrated Reporting Council, Carbon Disclosure Project, development agencies of Canada, the USA, the UK, and Germany.

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