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# CIRCULAR ECONOMY SYMPOSIUM (CES 2018) PROCEEDINGS'

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**FICCI Quality Forum**  
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**Conference Organizer**

Federation of Indian Chambers of Commerce and Industry (FICCI)

**Supported by**

Department of Science & Technology, Ministry of Science & Technology, Government of India

Ministry of Environment, Forest and Climate Change, Government of India

**Sponsor(s)**

Mahindra & Mahindra, Intertek, OLA

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Accenture Strategy

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Circular Economy Club, Infinitive

**Institution Partner**

The Energy and Resources Institute (TERI)

**Carbon Neutrality Partner**

Infinite Solutions

**Venue**

FICCI, Federation House, New Delhi



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## Background

The Indian economy is at a critical stage of its journey – a stage that is characterized by rising demand-supply constraints, fast changing consumer preferences and an increasing stakeholder scrutiny. Given the current resource constraints, business-as-usual is not sustainable and there is a need to decouple growth from resource requirements and consider a new way of dealing with the material cycle. Circular Economy (CE), in such a scenario, through its innovative business models, serves as an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

With this background, FICCI hosted the second edition of Circular Economy Symposium on 14-15<sup>th</sup> May 2018 at Federation House, New Delhi with the support of Department of Science & Technology (DST), Ministry of Science & Technology, Govt. of India and Ministry of Environment, Forest and Climate Change (MoEFCC), Govt. of India to mainstream discussion around Circular Economy in India.

## Overview of the event

The two-day symposium brought together over 200 delegates from industry, start-ups, government and civil society, corporates showcasing innovative strategies and practices that will enable the Indian Economy to achieve sustainable economic growth through circularity.

The Day 1(Inaugural) witnessed **Mr. Amitabh Kant, Chief Executive Officer, Niti Aayog** releasing the FICCI-Accenture theme paper on '**Accelerating India's Circular Economy Shift: A Half trillion USD opportunity – Future proofing growth in a resource scarce world**'. The highlight of the report – **Circular business growth models could spell gains of up to \$697bn in India by 2030**. Addressing the event, he deliberated on the fact that India needs to grow at about 10 per cent annually for the next three decades to be able to meet the ever-rising demands of its growing population. This order of growth, however, will not be achieved if the 'business-as-usual' approach to the use of scarce resources. He pointed out that the need of the hour is to bring about a change in mindset and give free play to innovation to cash in on the vast business opportunities that lie ahead

He also underlined the need to embed the principles of circular economy in India's school education system. This process will equip young learners with the right mindset and enable them to become active shapers of a movement that will secure the future with finite resources. A circular economy, in contrast to the 'make-use-dispose' model of the linear economy, focuses on use of resources for longest possible time as also recovering and regenerating products and materials at the end of their life cycle.

**Mr. Vipul Shah, Chief Operating Officer, Petrochemicals, Reliance Industries Ltd.**, during his address, pointed that in a consumption-led society, the end user and the intermediary businesses will drive the circular economy. The idea here emerges out of the fact where we would re-imagine our economies as



circular as opposed to linear and develop a construct that keeps resources for as long as possible and re-use products after their use.

**Mr. Vijay Kalra, Chief Executive Officer, Mahindra Vehicle Manufacturers Ltd.,** staked out Mahindra's sustainability framework which aims at keeping products, components and materials at their highest utility and value at all times.

**Dr. Ajay Mathur, Director General, The Energy and Resources Institute (TERI),** underlined the need to monetize the collection of waste materials, certify it before it goes into recycling and ensure that different parties in the value chain interact with one another to put the recycled material to the best possible use.



**Figure 1:** (L-R) Archana Datta (FICCI), Mritunjay Kumar(FICCI), Vipul Shah(Reliance), Anirban Ghosh(Mahindra), Amitabh Kant (NITI Aayog), Vijay Kalra (Mahindra), Vishvesh Prabhakar(Accenture), Ajay Mathur(TERI), Sundeep Singh(Accenture), Ashok Menon (SABIC)

The FICCI-Accenture theme paper, later was elaborated during the presentation where Mr. Vishvesh Prabhakar, Accenture talked about demystifying circularity for India, stated the very fact that Indian economy is expected to reach \$7 trillion by 2030. Some highlights:

- Global circular economy potential is approx. \$4.5 trillion. In India, a value opportunity of \$0.5 trillion exists representing 7% of total value. However, this is a conservative measure as businesses usually report an increase in 10-15% when they adopt circular models.
- According to the report, 5 factors will be critical to accelerate circular models in India – greater awareness, disruptive technologies, enabling policy landscape, innovative funding models, and collaborations and partnerships.
- **5 distinct CE models** - Circular Supply Chain, Product Service System, PLC Extension, Recovery & Recycling, Creation of Sharing Platforms
- Companies should analyze risks & opportunities with circular models, assess the potential value creation especially in concert with digital (& other technologies), identify shifts in capabilities required to manage the transitions, and develop visions plus short term and long-term goals that capture low hanging fruits but also allow companies to be prepared for future.



## Theme and focus areas

CES 2018 – an exclusive event in India, has an objective of mainstreaming Circular Economy Principles in Indian businesses for long term value creation, be it economic (extended value of products and materials for as long as possible) as well as environmental (minimizing waste generation and resource use).

The following sessions were organized based on their respective objectives and key take ways for the delegates:

### 1. SESSION - ART OF POSSIBLE: GLOBAL BEST PRACTICES

The session discussed the state-of-art Circular Economy examples - how some of the global majors have successfully implemented new ideas, how some countries and cities have created a very favourable business environment for circular business models and how some think tanks and NGOs are oiling the entire circular ecosystem to move ahead. The highlight here remained, an effective collaboration strategy to learn how to scale up and keep the value of material high up in the loop. Case studies from the textile industries, to close the aluminium waste loop, circularity within the chemicals sectors, solutions to dismantle materials from the construction sites were discussed.



**Figure 2:** Group Picture – Global best practices: Circular Economy (L-R) Felix Preston (Chatham House), Janardhanan Ramanujalu (SABIC), Anirban Ghosh (Mahindra & Mahindra), Anna Warrington (Forum for the future)

## 2. SESSION - OPPORTUNITIES AND CHALLENGES IN THE CIRCULAR ECONOMY ECOSYSTEM

The discussions were initiated from a policy point of view, as to talk about the challenges associated with the adoption of Circular Economy and opportunities that could be explored going forward. The idea was to get a buy-in from the all the stakeholders present to analyse the need for a workable action plan.

The discussions during the session brought in a perceptive that waste to energy is not entirely a solution but a starting point that we can grow up from and a consensus from there needs to be built. There are shifts needed to be investigated, risks to be calculated before filling up the policy vacuum. While talking about Circular Economy as a concept, we need to essentially look at the overall health of the ecosystem not just the economy.



**Figure 3:** Group Picture - Opportunities and Challenges in the CE Ecosystem (L-R): Chandan Bhavnani (Yes Bank), Dieter Mutz (GIZ), Zeenat Niazi (DA), Nirmal NR (Zoom car)

## 3. SESSION: ART OF POSSIBLE – INDIAN BEST PRACTICES

The session was designed with a thought to provide a platform for rich exchange of ideas and knowledge sharing and to discuss Circular Economy examples – Indian context and sharing business challenges and understanding the capabilities required for the future to successfully implement innovative ideas keeping in mind the circular business models. While focussing on India, it becomes crucial to also involve informal sector whilst taking care of resource efficiency which would mean capacity building as a core. The right path for leading the discussions would be through leveraging funds for carrying businesses and investing into the informal sector so it creates a give and take pathway and may be mandate for EPR (Extended producer's responsibility).





Figure 4: Group picture – Art of possible: Indian Best practices (L-R): Nikhil Deshpande (Reliance), K. Narayana Rao (ACC Ltd.), Rene Van Berkel (UNIDO), Yogesh Bedi (TATA Steel), Pradeep Panigrahi (Mahindra & Mahindra)

#### 4. SESSION: ROUNDTABLE DISCUSSIONS

The roundtable discussions were planned for Day two to extensively discuss the circularity within the respective sectors to prioritize its adoption through the entire value chains.

##### a) Industry Focus: Agriculture, Food and Beverage

Being a critical sector of the economy, it is at the centre of challenges associated with population growth, food security and resource scarcity. Modern agricultural system is wasteful and produces large amount of waste every year. Circular Economy as a model has enormous potential in the sector since it would not only mean reducing waste but also best use of 'wastes' produced by using economically viable processes to increase their value. Promoting CE would need a smart and holistic approach to green products and processes.

- The mid-stream stages of the value chain confront challenges with respect to supply security. There is an opportunity to recover useful resources through recycling of waste streams as well as promoting efficient agriculture through practices like precision farming and sharing platforms. It was also evident that Circular models such as product life extension, product as a service and recovery & recycling can help address the challenge of food and plastic waste.
- Industry will be forced to comply with CE norms provided there's a pull from business opportunities and thorough legislation which needs to be amended. There are various solutions present at the cross connect but stringent legislative rules stride them off to be implemented. For instance, the industrial water (apart from the effluent) could be re-used for the fields, but the lack



of infrastructure makes it non-feasible and hence resource inefficient. CE offers opportunities across the sector however the government will have to take majors step to generate awareness through capacity building and framing policies and legislations to support the existing and new initiatives.



Figure 5: Roundtable - Food, Agriculture and Beverage

**b) Industry Focus: Metals recycling**

The demands for metals is presumed to increase with the growing economy which is expected to put significant pressure on the supply chain. CE models and principles are applicable across metal value chain both at the upstream and downstream stages.

- Considerably, mining operations during the upstream creates waste which could be reused and recycled while at the downstream stages of the value chain, CE models can enable metals and mining organizations to extend the ownership of assets, thereby facilitating efficient collection mechanisms and recyclability.
- The upstream operations during the exploration, mining, smelting and refining stages are typically characterized by generation of waste streams - these waste streams can be recycled and reused either within the factory operations or introduced as a raw material in a different value chain. A practical example would be the rental business model, which allows the customers to rent and reuse the sheet piles thereby reducing their manufacturing costs.





Figure 6: Roundtable - Metals Recycling

### c) Industry Focus: Electronics and High Tech

One of the highly growing sectors in India characterised by high waste generation and low recycling rates. Considering the hazardous nature of waste generated, there is a growing regulatory scrutiny. CE opportunities in the sector are available precisely at product design stage.

- Adoption of CE models demonstrates clear business benefits in the form of additional revenue streams and improved customer service through service model differentiation. Leading players are working towards formal take-back mechanisms and metal recovery technologies to monetize the embedded value in electronics products while also complying with changing regulatory landscape.
- The discussions happened across the issues with increasing accumulation of waste in urban areas and opportunity it presents for urban mining of resources and introducing design for recycling concept with the focus on following-
  - Ease of dis-mantling
  - Longer life products and modular design
  - Eliminating hazardous/toxic materials
  - Use of waste materials in products, upcycling
  - Growing market for refurbished/repaired/re-manufactured products
- Informal recycling is an important sector here to be considered. Creating job work facility for informal sector to facilitate their integration without comprising environment. While instruments like GST are deterrent to recycling business, it has otherwise helped informal sector to become formal. Infrastructure investment and compliance expenses are deterrent to formal recycling and hence needs to be addressed to formalize recycling.



- The products manufacturers and retailers have various initiatives in place in India to take care of products ending up as waste. These include:
  - a. Facilitating collection of end of life products including through reverse logistics
  - b. Product to product recycling program
  - b. Leasing of services growing as against sale of products though both would co-exist
  - d. Concept of design for recyclability looking at energy efficient, material efficient and easy to recycle products.



Figure 7: Roundtable - Electronics & Tech.

#### a) Industry Focus: Manufacturing

There are still massive barriers to implementing the circular economy as "business as usual," and it will require pulling a company's full value chain on board.

During the discussions, few recommendations that came across included replacement of limestone with fly ash where the earlier is used. However, legislations around the same needs to be rewired since at the moment, 50-60% fly ash generated is considered waste which otherwise could be used effectively. Some examples of effective utilization of one industry's in other industry include the use of foundry slag into pavement blocks. For CE to be successful, it is critical to consider MSME's involvement as well. Also, capacity building here for not just the decision makers but a 360-degree accountability of the workers, unit handlers is also equally critical.





Figure 8: Roundtable - Manufacturing

## 5. SESSION: BEYOND THE BOUNDARIES OF THE CORPORATIONS

The session was designed specially to allow the panelists from various backgrounds to share certain examples of circular economy using food waste, crop residue, construction and debris and municipal waste. The idea was to kick off discussions beyond the boundaries and apply world class management and radical engagement along with creating capabilities. The focus of the discussions happened to be creation of an ecosystem which is a combination of large and small businesses with a focus on Indian economy. The new economy would also include another concept which is beyond the actual boundaries i.e. Sanitation. While talking about value creation and resource efficiency, it is all the more critical to talk about the sanitation and hygiene parameters and create an ecosystem.



**Figure 9:** Group Picture – Beyond the boundaries of the Corporations (L-R): Sandy Rodger (Toilet Coalition Board), P. Palaniappan (Mahindra), Vivek P. Adhia (WRI)

## 6. SESSION: PROGRESS MADE - STARTUP SHOWCASE

The objective of setting up a session on startups was to bring out new ideas and innovations across the table and alongside providing a platform to Indian startups who have taken a leap in using technologies in enabling circular business models. The showcase will also act as an observatory for corporates seeking potential business partners. A wider well thought takeaway was to generate interest amongst the stakeholder's present towards the startups in the space and alternatively provide the players support in scaling up the businesses. The focus during the discussions was primarily on integration of the informal sector and the crucial role they play in the waste management system (Indian context). In fact, the informal sector connects well with the Sustainable Development goals hence a push (through incentivization) could do wonders in bringing a change. More and genuine efforts from scale and large-scale businesses would create a slow and steady impact on the mindsets. It's one thing to come up with great idea, it's another to pull together the right ones to execute.



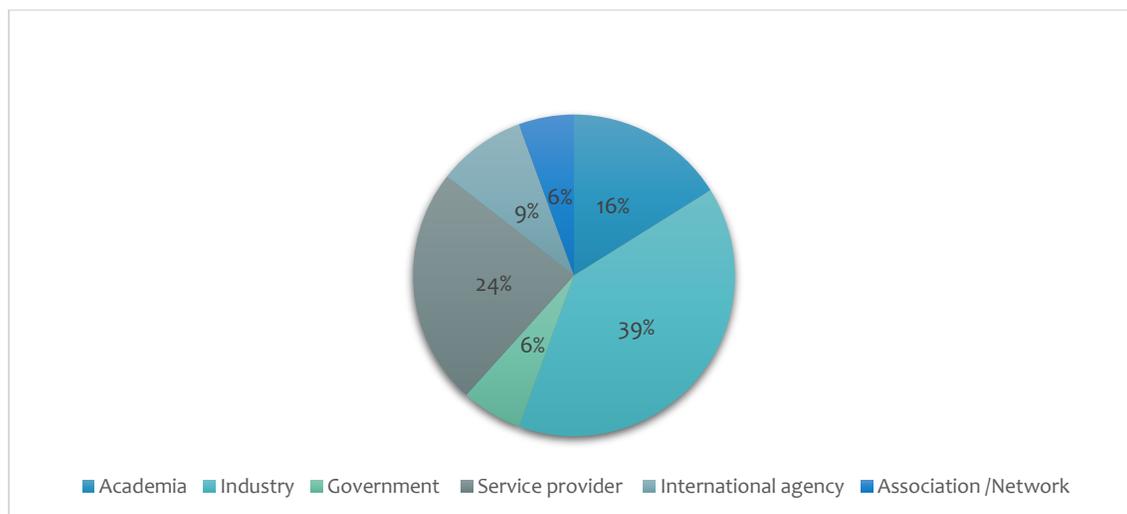


**Figure 10:** Group Picture – Progress made: Startup Showcase (L-R): Sidharth Hande (Kabadiwalla Connect), Nimish Shah (Safety & Environmental Assurance Centre), Rashi Aggarwal (Banyan Nation)

## Participant Assessment

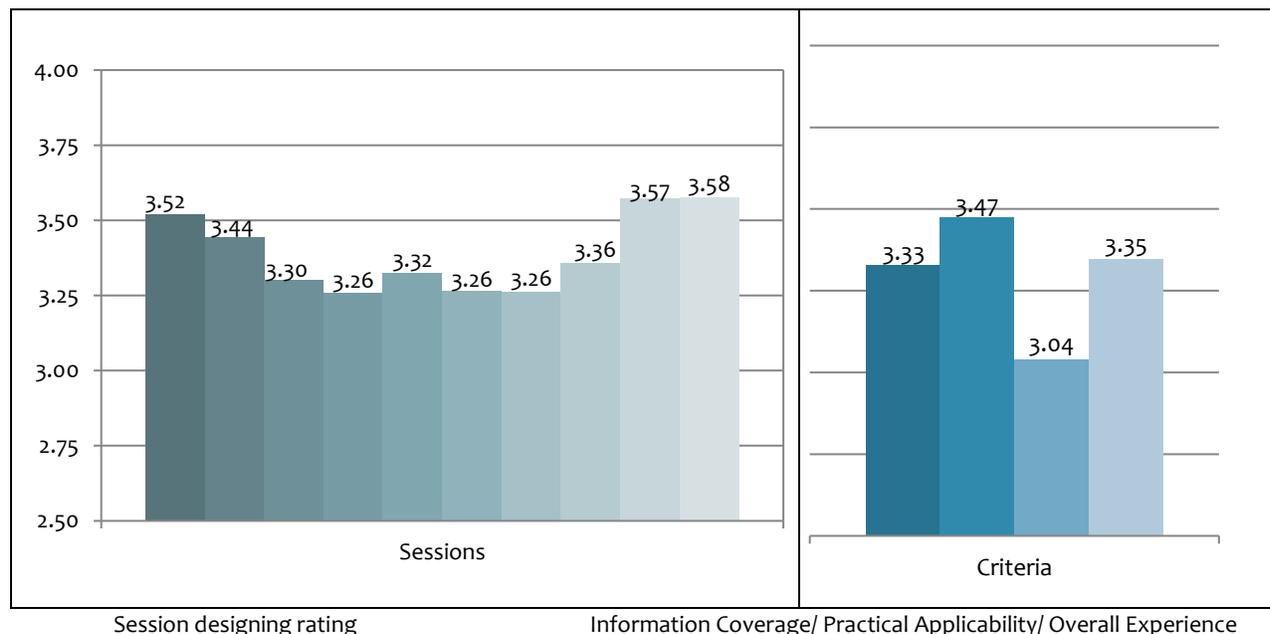
The overall feedback towards the sessions designed and expectations fulfillment was positive – the delegates were joyous about the fact that the event was able to capture like-minded people across various sectors under the same umbrella and hence facilitating a fair chance of exploring new ideas and putting them across the table for recommendations.

### Participant sectoral representation



Looking at the representation from various sectors, the majority comprised of the delegates from the Industry (39 percent) and the service providers (24 percent). However, it was evident to see an amalgamation of delegates across all the sectors which shows the vital interest in the subject.

### Experience rating



## Conclusion and Recommendations

Circular Economy – as a buzz word, presents a huge opportunity in India for achieving what we have always talked/dreamt about i.e. Sustainability (helping our future), job creation (helping our economy) and Value opportunity (helping our entire ecosystem). The most important aspect, above all, where the crux lies must be the **mindset shift** or for that matter be called a behavioral change within the mindsets. Businesses, across various sectors, require a switch from the traditional take-make-dispose model of growth to the circularity model. There is a huge value opportunity that lies when we go into the alteration from reduction of waste towards monetization of waste. Stakeholder collaboration at all levels is extremely vital to achieve the procurement cost control (with a flavor of innovation) in the entire value chain when we talk about redesigning and product development.

The grand discussions across both the days coerced into some incredible recommendations from the brilliant minds present. CE is way more than just recycling.

- An underlining recommendation was to launch grand challenges across the globe to identify the best practical solutions and analyze its feasibility for India and implement what's best.
- Enabling regulatory frameworks, remove policy barriers and incentivize renewable materials especially into the construction & housing sector. incentives could be in the form of:



- Fiscal Incentives for start-ups (Recycle domain)
- Public procurement (special push) be given to products using CE production models.

To take this through to a conclusion, inclusion of more policy makers would be a promising idea going forward.

- Establish an Association/Institution/Platform with the Government's buy-in to facilitate capacity building and cooperation among all stake holders (multi stake holder collaboration) on a regular basis.



## About the organizer

FICCI is the voice of India's business and industry. Established in 1927, it is India's oldest and largest apex business organization. It serves its members from the Indian private and public corporate sectors and multinational companies, drawing its strength from diverse regional chambers of commerce and industry across states, reaching out to over 2,50,000 companies. FICCI provides a platform for networking and consensus building within and across sectors and is the first port of call for Indian industry, policy makers and the international business community.

This symposium was organized by FICCI Quality Forum (FQF), a specialized division of FICCI working in the areas of Quality and Environment Management including Climate Change and Sustainable Production and Consumption (SCP). To facilitate Indian industry, keep abreast of latest developments in its domain, FQF constantly strives to organize Scientific Symposiums and Business Seminars on topics of contemporary relevance. In environment space, FQF is currently working on projects to mainstream Life Cycle Thinking and Sustainable Consumption Production (SCP) in India through capacity building programmes, symposium and support to pilot projects.



## Annexure I- Agenda

Day 1: Monday, 14 May (Venue: Commission Room, 3 <sup>rd</sup> Floor)	
12:30 – 13:30	<b>Welcome Lunch &amp; Registration</b> (Banquet & Lounge, 3 <sup>rd</sup> floor)
14:00 – 15:00	<b>Inaugural Session: Transitioning towards Circular Economy: India Begins</b>
14:00 – 14:10	Welcome Remarks <i>Mr. Anirban Ghosh, Chair – Circular Economy Symposium 2018 and Chief Sustainability Officer, Mahindra &amp; Mahindra</i>
14:10 – 14:20	Theme Address <i>Mr. Amitabh Kant, Chief Executive Officer, NITI Aayog</i>
14:20 – 14:30	Special Address <i>Mr. Vipul Shah, Chief Operating Officer-Petrochemicals, Reliance Industries Ltd.</i>
14:30 – 14:40	Keynote Address <i>Mr. Vijay Kalra, Chief Executive Officer, Mahindra Vehicle Manufacturers Ltd.</i>
14:40 – 14:50	Special Address <i>Dr. Ajay Mathur, Director General, The Energy and Resources Institute (TERI)</i>
14:50 – 14:55	<b>Release of FICCI - Accenture Theme Paper on “Accelerating India’s Circular Economy Shift: Future proofing growth in a resource scarce world”</b>
14:55 – 15:00	Closing Remarks <i>Dr. Ashok Menon, Global Technology Leader, Sustainability Analytics &amp; Operations, Corporate Sustainability Division, SABIC Technology Centre</i>
15:00 – 15:30	<b>Networking Tea</b> (Banquet & Lounge, 3 <sup>rd</sup> floor)
15:30 – 16:10	<p><b>Session 1: Demystifying Circular Economy for India</b></p> <p><u>Objective:</u> Elaborate the five business models – Circular Supply Chain, Recovery and Recycling, Product as a Service, Product Life Extension and Sharing Platforms – covered in the position paper. Best-in-class examples along with key adoption imperatives for each business model will also be discussed. Accenture will also socialize other key findings of the paper in this session.</p> <p><u>Expected Takeaways:</u> CE is not just end-of-life waste management but much more beyond that. To reap maximum benefits, companies should look for ways to adopt the five business models in their respective industries, product categories and markets.</p> <p>a) <i>Mr. Vishvesh Prabhakar, Managing Director, Accenture</i></p>
16.10 – 17.10	<p><b>Session 2: Art of Possible: Global Best Practices</b></p> <p><u>Objective:</u> To discuss state-of-art Circular Economy examples – how some of the global majors have successfully implemented new ideas, how some countries and cities have created a very favorable business environment for circular business models and how some think tanks and NGOs are oiling the entire circular ecosystem to move ahead.</p>



	<p><b>Expected Takeaways:</b> Bring to life the theoretical concept of CE, a comprehensive understanding of the direction in which global leaders in Circular Economy are headed and inspire action in India by setting benchmarks for to-be Indian circular vision.</p> <p><b>Chair:</b> Mr. Anirban Ghosh, Chair – Circular Economy Symposium 2018 and Chief Sustainability Officer, Mahindra &amp; Mahindra</p> <ul style="list-style-type: none"> <li>a) Mr. Janardhanan Ramanujalu, Vice President, Regional Head- South Asia &amp; Australia at SABIC</li> <li>b) Ms. Anna Warrington, Director, Forum for the future</li> <li>c) Mr. Felix Preston, Deputy Research Director, Chatham House</li> </ul>
19.00 onwards	<p>Evening Interaction with Partners of International Consortium for LCA Capacity Building in India <b>(By Invitation only)</b></p> <p>Cocktails and Dinner sponsored by Sustainable Recycling Industries Project on LCA Capacity Building in India</p>
<p><b>Day 2: Tuesday, 15 May</b> (Venue: Commission Room, 3<sup>rd</sup> Floor)</p>	
09.15 – 09.30	<b>Networking Tea</b> (Banquet & Lounge, 3 <sup>rd</sup> floor)
09:30 – 10:30	<p><b>Session 3: Opportunities and Challenges in the Circular Economy Ecosystem</b></p> <p><b>Objective:</b> From a policy perspective, discuss the challenges associated with adoption of Circular Economy and opportunities that may be explored going forward</p> <p><b>Expected Takeaways:</b> Collective understanding of challenges posed for full-fledged mobilization towards Circular Economy and buy-in from various stakeholders on need for an action plan.</p> <p><b>Chair:</b> Ms. Zeenat Niazi, Vice President, Development Alternatives Group</p> <ul style="list-style-type: none"> <li>a) Dr. Dieter Mutz, EU Resource Efficiency Initiative (REI) India, Team leader, GIZ</li> <li>b) Mr. Nirmal NR, Zoomcar</li> <li>c) Mr. Chandan Bhavnani, Executive Vice President and Regional Head – North &amp; East, Responsible Banking, YES BANK Ltd.</li> </ul>
10:30 – 11:15	<p><b>Session 4: Art of Possible: Indian Practices</b></p> <p><b>Objective:</b> To discuss Circular Economy examples – Indian context and sharing business challenges and understanding the capabilities required for the future to successfully implement new ideas keeping in mind the circular business models. Invited speakers from various segments to address and demonstrate practices relevant to India.</p> <p><b>Expected Takeaways:</b> A platform for rich exchange of ideas and knowledge sharing.</p> <p><b>Chair:</b> Mr. Rene Van Berkel, UNIDO Representative, Regional office – India</p> <ul style="list-style-type: none"> <li>a) Mr. Yogesh Bedi, Chief Steel Recycling Business, TATA Steel</li> <li>b) Mr. K Narayana Rao, Director, Energy and Environment, ACC Ltd.</li> </ul>
11:15 – 11:45	<b>Tea Break</b> (Banquet & Lounge, 3 <sup>rd</sup> floor)
11:45 – 12:30	<p><b>Session 5: Art of Possible: Indian Practices</b></p> <p><b>Chair:</b> Mr. Rene Van Berkel, UNIDO Representative, Regional office – India</p> <ul style="list-style-type: none"> <li>c) Mr. Nikhil Deshpande, Head- Sustainable Solutions, Petchem, Reliance Industries Ltd.</li> <li>d) Dr. Pradeep Panigrahi, Deputy General Manager, Corporate Sustainability, Mahindra &amp; Mahindra Ltd.</li> </ul>
12:30 – 13:30	<b>Lunch   Networking Break</b> (Banquet & Lounge, 3 <sup>rd</sup> floor)



13:30 – 14:30	<p><b>Session 6: Roundtable Discussions</b></p> <p><b>Objective:</b> Deep-dive into circular economy within the context of that industry (Existing policy scenarios and issues, low-hanging fruits in CE paradigm, global best practices and emerging enabling technologies).</p> <p><b>Expected Takeaway:</b> Business case for adoption of CE in the industry exists, discuss and prioritize industry-level action points; Participants equipped with a hands-on approach and understanding of high-level roadmap.</p> <p><b>a) Industry Focus: Agriculture, Food and Beverage</b> (Venue: Banquet, 3<sup>rd</sup> Floor)  <i>Chair: Mr. Pravesh Sharma, Chief Executive Officer, Kamatan</i>  a) Mr. Abhiram Seth, Managing Director, AquAgri  b) Mr. Arjun Uppal, Vice President, Corporate Affairs, DCM Shriram Ltd.</p> <p><b>b) Industry Focus: Metals recycling</b> (Venue: Council Room, 3<sup>rd</sup> Floor)  <i>Chair: Mr. Vikram Singh Gaur, Joint Secretary, NITI Aayog, Government of India</i>  a) Mr. Anil Kumar Nayak, Joint Secretary, Ministry of Mines, Government of India  b) Mr. Sanjay Mehta, President, Metal Recycling Association of India  c) Mr. Dhawal Shah, Vice President, Metal Recycling Association of India  d) Mr. Pankaj Kumar Satija, Chief Regulatory Affairs, Tata Steel Limited  e) Mr. Chandrakant Tambe, Junior Overseer, Municipal Corporation of Greater Mumbai</p> <p><b>c) Industry Focus: Electronics and High Tech</b> (Venue: Board Room, 2<sup>rd</sup> Floor)  <i>Chair: Dr. Suneel Pandey, Director, Environment and Waste Management Division, The Energy and Resources Institute (TERI)</i>  a) Mr. Ritesh Ghosal, Chief of Marketing and Insights - Infiniti Retail, CROMA  b) Ms. Upasana Choudhry, India Sustainability Manager, HP India &amp; Materials Program Manager, Asia Pacific and Japan, HP  c) Mr. BK Soni, EcoReco, Chairman &amp; MD, Eco Recycling Ltd.  d) Dr. Sunita Purushottam, Head of Consulting, Treeni Sustainability Solutions</p> <p><b>d) Industry Focus: Manufacturing</b> (Venue: Committee Room, 2<sup>rd</sup> Floor)  <i>Chair: Prof. Surya Chandak, Mentor and Professor Emeritus, Birla Institute of Management Technology</i>  a) Mr. Sandeep Shrivastava - Head- Environment &amp; Sustainability, Ambuja Cement  b) Dr. Tamal Sarkar, Executive Director, Foundation for MSME Clusters  c) Dr. Christoph K. Klunker, Senior Fellow Circular Economy - Climate, Energy and Resources, Observer Research Foundation</p>
14:30 – 15:30	<p><b>Session 7: Beyond the Boundaries of the Corporations</b></p> <p><b>Objective:</b> Requires a new approach from panelists coming from diverse backgrounds and deliberate upon examples of circular economy using food waste, crop residue, construction and debris waste and municipal waste.</p> <p><b>Expected Takeaway:</b> Contribution to the discussions beyond boundaries, apply world class management and radical engagement along with creating capabilities.</p>



	<p>Chair: Mr. Joe Phelan, Director, India, World Business Council for Sustainable Development (WBCSD)</p> <p>a) Mr. P Palaniappan, Senior Vice President, M &amp; M and Business Head-Mahindra Powerol - Mahindra Group</p> <p>b) Mr. Sandy Rodger, Chief Operations Officer, Toilet Board Coalition</p> <p>c) Mr. Vivek P. Adhia, Director, Climate &amp; Head, Business Engagement, WRI – India</p>
15:30 – 16:00	<b>Networking Tea</b>
16:00 – 16:45	<p><b>Session 8: Progress Made: Startup Showcase</b></p> <p><u>Objective:</u> Provide a platform to Indian startups who have taken a leap in using technologies in enabling circular business models, the showcase will also act as an observatory for corporates seeking potential business partners.</p> <p><u>Expected Takeaways:</u> Wider interest of stakeholders in startup activity in this space; on the other hand, provide startups an opportunity to connect with players who can provide support in form of scale, funding and mentorship etc.</p> <p>Chair: Dr. Nimish Shah, Program Director, Strategic Science Group Safety &amp; Environmental Assurance Centre</p> <p>a) Mr. Siddharth Hande, Founder/CEO, Kabadiwalla Connect</p> <p>b) Ms. Rashi Aggarwal, Director Partnerships, Banyan Nation</p>
16:45 - 17:15	<p><b>Valedictory session: Call for Action: Next Steps</b></p> <p><u>Expected Takeaways:</u> CE is the way forward and as India enters fast economic growth phase, the time for integration of CE mindset is now. Industry-specific learnings which participants can take back to their respective organizations and play the role of Circular Economy champions.</p> <p>Mr. Anirban Ghosh, Chair – Circular Economy Symposium 2018 and Chief Sustainability Officer, Mahindra &amp; Mahindra</p>



## Annexure II- Complements and appreciation

- Excellent sessions, knowledgeable, helpful in implementation
- Brought together varied and highly experienced professionals/experts together on a relevant & timely action subject
- Clear objectives of each sections and outcomes and roundtable Discussion
- Extensive exposure to the best practices
- Good arrangements; networking facility
- Interactive nature. Some highly knowledgeable panel chairs
- Q&A sessions - approach and execution; Participation of audiences and time adherence
- Representation of different sectors
- The diversity of subjects to talk about at a common platform was quite interesting
- The excellent organisation and conduction
- The mixture of participants and the way knowledge was shared
- This event addressed the grand level opportunities in Indian Scenarios
- Well-designed agenda, Wide sectoral coverage, deep-diving into genuine issues.

