
FICCI Circular Economy
Symposium–
OUTCOME REPORT

Nov 25-26, 2021

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ABOUT FICCI CES SERIES

FICCI is pioneering effort in mainstreaming Circular Economy (CE) in India by leading effort in thought leadership space under guidance and support of FICCI National CE Committee. Details of our efforts in this direction including the knowledge papers released by us on the subject may be assessed at www.ficcices.com.

Instated in the 2017, FICCI Circular Economy Symposium is a flagship annual event of FICCI, dedicated to bring together cross-sectional panellists, multilateral organizations, leading scholars, academics, international leaders, stakeholders, solution providers & seekers on a common platform to deliver talks and sessions aimed to discuss & cover issues on circular economy across sectors and verticals. CES series have been endorsed by Ministry of Environment, Forests and Climate Change, and NITI Aayog since inception.

The rich deliberations at symposium involving all relevant stakeholders' triggers actions towards policy review, help organisations to realign their strategy and create an action plan for promoting climate neutral, competitive economy with right ingredients for green recovery. In 2019, on behest of CEO NITI Aayog, FICCI also launched first ever Indian Circular Economy Award to recognise, encourage and celebrate innovations happening CE space in India across four categories of large enterprises, SMEs, Start-ups and Not for profit organisations. The platform witnessed encouraging response from stakeholders across value chain and bring forth many good and impactful circular solutions in the national interest.

FICCI through its National circular Economy Committee is committed to align its effort with policy makers and institutions working in this space to trigger ground level action to mainstream this concept across segments of industry.

ABOUT CES 2021

The 5th edition of Circular Economy Symposium was driven by the central theme of “**Circular Economy Solutions & Global Best Practices**” and focused on delivering best practices and models from across the globe illustrating how circularity in businesses can prove to be a sound strategy in Indian context too, to facilitate access to new markets, driving innovative solutions and saving costs.

The overall design of conference was unique from the content, solutions, and delivery point of view despite being virtual. The conference focused on the following 6 key areas for mainstreaming circular economy in Indian ecosystem:

- Circular Economy Global Innovations: Showcasing & Celebrating Circular Solutions with a view to Indian Context
- India as an emerging Circular Economy innovation leader.
- Industry Deep dive in focused sectors (highlighting Policy action, bottlenecks, solutions, and benefits
- Circular Economy and Climate Change Mitigation
- Interact with the winners of ICEA and learn about their circular and sustainable efforts
- Transition toward CE: Opportunity and Challenges

In addition, to promote Circular Economy & recognize the innovative contributions made in this space, we also organized the 2nd edition of Indian Circular Economy Awards 2021. The winners & runners-up

were announced after careful assessment by imminent industry persons. The award felicitation ceremony was attended by Shri. Amitabh Kant, CEO, NITI Aayog. Summary of ICEA 2021 process attached as Annexure 2.

CES 2021 also witnessed the release of knowledge paper on ***“BEYOND INCREMENTALISM- A Pulse check on India’s Circular transition”*** by Shri. Amitabh Kant, CEO, NITI Aayog. The study aims to understand the perspective of India’s business leaders on circular economy, its linkages to decarbonization and business expectations to create an enabling environment for enhancing circularity. The study is of national importance & was jointly conducted by FICCI and Accenture. It analyses the current maturity of circular economy & the outlook. The study also presents several global and local case studies to showcase the good work already happening in this space.

This edition of the study focuses on covering two aspects: A diagnostic of the CE landscape in India and what the future holds & The role India's CE transition can play in the decarbonization journey. Summary of the report has been attached as Annexure 1.

KEY HIGHLIGHTS:

Major highlights of the symposium were as under:

- Keynote address by Shri. Amitabh Kant, CEO, NITI Aayog for the 4th time in a row and special mention of FICCI CES series and its knowledge work in enabling transition to CE in India
- Special address by HE Ugo Astuto, Ambassador, EU highlighting the EU & India partnership & agreement to draft the Resource Efficiency policy 2019, as part of the EU-India Resource Efficiency Initiative & also assured future collaborations to take necessary actions to promote Circular Economy.
- Valuable & detailed deliberations by 47 speakers including 7 speakers from policy & government highlighting solutions, issue and challenges and enablers for transition
- Attended by 280+ delegates virtually from the circular economy, environment & sustainability space. Profile of participants enhanced with sr. sustainability experts and leaders and over 15 CEOs attending the symposium.
- Unique from the content and delivery point of view and divided into 9 focused sessions, showcasing more than 30 circular economy solutions from specific sectors like plastics, marine litter, construction & demolition, textiles, metals, Solid and liquid Waste etc.
- Indian Circular Economy Awards 2021 virtual award felicitation by Shri. Amitabh Kant. Over 80 registrations were received, out of which 42 applications were selected after preliminary screening for assessment. 12 senior industry assessors shortlisted 11 applications across 4 categories, followed by declaration of winners & runner-up by esteemed jury members from circular economy, sustainability & environment background.
- Release of Knowledge paper ***“Beyond Incrementalism-A Pulse check on India’s circular Transition”*** highlighting specific call to action on way forward.
- Encouraging feedback from participants (>95% rating as excellent or good was received)
- Endorsed by NITI Aayog & Ministry of Environment, Forest & Climate Change.

SESSION WISE LEARNINGS & TAKEAWAYS:

<p>Session 1 (Inaugural): India - An emerging Circular Economy innovation Market Chief Guest: Mr. Amitabh Kant, CEO NITI Aayog Special Guest: Mr. Ugo Astuto, Eu Ambassador to India Industry Speaker: Mr. Janardhanan Ramanujalu, VP, Regional Head-South Asia & Australia, SABIC</p>
<p>Key Takeaways:</p> <ul style="list-style-type: none"> • NITI Aayog considers the transition to circular economy principles would help improve resource efficiency, impart competitiveness, reduce social cost and address environmental challenges, and provide new business opportunities. • CE and RE have become central pillars for setting our ambition for green, digital, and resilient model for economic growth. The follow up of COP 26 would require a further strengthening of collaborative initiatives. • Post-Consumer waste is of a lot of issue in every industry. Circular economy solutions are the ones which can help us get rid of these wastes.
<p>Session 2: Cross-value chain approach to tackling plastic waste Moderator: Ms. Esha Sar, Chief Advisor for South Asia to Alliance to End Plastic Waste (WBCSD India)</p>
<p>Session Objective: To discuss in depth about the innovative solutions across the plastic value chain from the areas of collection, AI based sorting, recycling technologies & digital platforms.</p>
<p>Solutions Discussed:</p> <ul style="list-style-type: none"> • UFLEX- They are undertaking many environmental and sustainability practices like recycling MLP waste into granules, Pyrolysis to convert waste to fuel, enzyme-based technology to breakdown uncollected flexible packaging into biodegradable materials. • Recity- They enable value chain collaborations between brands, consumers, government, waste workers, and the recycling ecosystem by their digital platform to track the entire journey of post – consumer plastic waste. • ISHITVA robotics systems- Their AI based technology business is working on the principle of sorting to create value. Efficient solutions based on industry 4.0 tools, including Artificial Intelligence, Machine Learning and IoT to make sorting more efficient at different stages of the waste value chain.
<p>Key Takeaways:</p> <ul style="list-style-type: none"> • To achieve the transformational change, there must be practical alignment & collaboration amongst a diverse spectrum of stakeholders which is currently absent. • Collection of Data, Design, Affordability, Quality, Quantity & Alignment gap are some of the bottlenecks preventing achievement of viable circularity. These can be addressed by improving data at all points of the plastic value chain, using material recycled resins, optimizing material usage, considering alternatives, cost to deliver quality should be higher than the value derived, the recycled materials must be fit for use i.e., without contamination, improving the basic collection and segregation systems in different areas, respectively. • Establish an effective business model to identify equal responsibilities of all the stakeholders to achieve circular economy. • The key driver for technology procurement for recycling would be the newly introduced EPR regulation, as it demands recycling of the waste. Therefore, its effective implementation is crucial. • The fast-track adoption of technology advancements & platform for improved connectivity of the entire plastics value chain is possible only by joint efforts from government, brand owner intent & higher awareness amongst the consumers.

<p>Session 3: Sustainable Mining and metals in a Circular Economy</p> <p>Moderator: Ms. Ruchika Govil, Additional Secretary, Ministry of Steel & Chairman, CE Committee on Scrap Metals</p>
<p>Objective:</p> <p>To provide insights on global circular economy developments in policy and practice for the metals and mining sector with innovative practices & technology showcase from the leaders presenting the district, industry, and solution-based perspectives in the metals & mining sector.</p>
<p>Solutions Discussed:</p> <ul style="list-style-type: none"> • District Mineral Fund, Angul, Orissa-Highlighted various initiatives and projects through practical case studies and examples being undertaken to promote sustainability and circular economy in metals & mining sector in the Angul district of Orissa. • JSW group- They are using various technological and innovative practices to recycle mining by products, all the steel scrap produced being used to address the growing raw material demands, use of slag in cement manufacturing, convert the granulated glass furnace slag to processed slag & slag sand (BIS certified substitute to river sand) etc. • Proman Infrastructure services pvt. Ltd- Following multiple Innovative technologies and solutions available for promoting recycling in India like crushing, screening, material handling, sand plants, mortar plants, metal & nonmetal recycling etc., through global collaborations.
<p>Key Takeaways:</p> <ul style="list-style-type: none"> • Skilling local community is a necessary component to achieve circular economy & also helps individuals find jobs locally. • Every piece of steel can eventually be recycled to meet the growing global demand for new steel & enable organizations to recycle the scrap produced through various processes. • Government engagement is necessary to help trace the available scrap metal from the end-of-life processes & be used as raw material. • Reduce, reuse, recycled, recover, redesign & remanufacture to avoid any adverse impact on environment & strengthening the foundation of sustainable development. • By effective recycling & use of efficient technologies the gap between demand & supply can be reduced in future & the country may become self-sufficient by 2030.
<p>Session 4: Building Circularity with Construction and Demolition waste</p> <p>Moderator: Mr. Sanjay Seth, Senior Director at TERI & CEO of Griha council</p>
<p>Objective:</p> <p>To deliver the industry perspective, the think tank standpoint & the solution provider viewpoint to deal with waste generated by the construction & demolition industry.</p>
<p>Solutions Discussed:</p> <ul style="list-style-type: none"> • Development Alternatives- Highlighted their role in policy building and implementation on ground as being a crucial member of NITI Aayog committee on C&D waste. The approach followed while presenting the recommendations to the committee were: construction approach-Design & construct for reuse and recycle, integrate a demolition plan, specify the life of the structure etc. , Waste Management Approach: Decentralized cluster based approach for recycling waste, data collection through AI & Legislative Approach: use of certain quantity of recycled material to be made mandatory, setting up green standard for India, make use of recycled material appealing to reduced taxes. • L&T -As a multinational Industry, how the organization is achieving their goal of sustainability for C&D waste through technologies & R&D & their future goal to become carbon neutral & water neutral till 2040 & 2035 respectively. • Zecomy by Eco emarket – A smart and innovative cloud-based platform to address current waste management challenges, wherein it brings both sellers and recyclers on the same platform through digital linkages
<ul style="list-style-type: none"> • Players such as the green building grading systems can play a crucial role as the driver to accelerate

this transition.

- Some key recommendations:
 - Building for design & construction
 - Factoring environmental costs and leveraging benefits
 - Application of C&D waste
 - Data and resource assessment
 - Waste segregation for better utilization
 - Strengthening supply & market
- It is sometime not practically viable to use ecofriendly/environment friendly material. the approach should be to use recyclable materials wherever possible without comprising on the standards and quality of the product.
- Development & release of a technical paper with information about the available resources can help push recycling and sustainability in the C&D sector.
- Establish recycling facilities in remote areas or areas near C&D industries to promote usage of recyclable material.
- Create awareness about the regulations, schemes, policies, incentives available. Technologies and innovations are available, but lack of policy enablers.

Session 5: Building Value - Circularity in Textile

Moderator: Mr. Venkat Kotamarajau, Director, Circular Apparel Innovation Factory

Objective:

To provide an understanding about material innovation and disruptive technologies, evolving trends and standards, upcoming policies, and legislation & address the pressing sustainability needs and the challenges in transitioning the industry towards circularity.

Solutions Discussed:

- **Aditya Birla Fashion & Retail Limited-** Their sustainability initiative-Re-Earth-For our Tomorrow, designed to achieve ambitious sustainability targets and business goals while balancing risks and opportunities for all relevant ESG initiatives. The initiative involves redesigning business & developing a future ready organization. Along with brief about collaboration with 6 innovators to reduce/eliminate SUP from the system.
- **IKEA-**Have set sustainability ambitions for 2030 and how they are working towards achieving those through various innovations, material research, circular product designs, use of recyclable or renewable materials, testing more circular services etc.
- **EU REI**

Key Takeaways:

- Product packaging should also be taken into considered and designed to promote circularity, along with the product.
- Need for binding rules and guidelines to address fast fashion, material segregation of the textile waste & an overall policy specific to the textile sector to address the real challenge of post-consumer waste.
- Develop parameters & inventories to access, identify and quantify the amount of pre consumer and post-consumer waste, how much is being recycled, how much discarded etc

Session 6 (Plenary): Circular Economy for accelerating low carbon transition

Moderator: Mr. Anirban Ghosh, Chair, FICCI National CE Committee & Chief Sustainability Officer, Mahindra Group

Key Takeaways:

- We need to fundamentally rework on our relationship with nature and redesign our societies to be more sustainable and equitable so that people and planet can thrive together.
- Circular Economy can help not only to mitigate climate change but also adapt to climate change. E.g., If a garment is recycled twice, it reduces the GHG emission to up to 49 % as released by textile sector.

<p>Session 7: Implementing Circular Solutions for managing Municipal Solid Waste & Liquid Waste (MSW & LW)</p> <p>Moderator: Nimish Shah, MD, International Association of Plumbing & Mechanical Officials (IAPMO)</p>
<p>Objective:</p> <p>To explore the best available solutions used for management of MSW & LW & Insights on policy interventions and development from NITI Aayog's committee on MSW & LW</p>
<p>Solutions Discussed:</p> <ul style="list-style-type: none"> • CAMBI- Their Thermal Hydrolysis helps in advanced treatment of sewage sludge and bio-degradable waste, food waste or co-digestion products. Helps reduce conventional problems and develop valuable resource. • Carbon Masters- Their products like Carbonlites in a box, carbonlites Bio-CNG, Organic fertilizers used to address the issue of high quantities of MSW, growing demands for cleaner fuels & declining soil carbons. • NEPRA waste management- They are creating Ecosystem with tech interventions across the waste value chain. They have developed a digital, technology enabled platform for collection, traceability, transparency, scalability, sorting, real time reporting, resource optimization etc. leading to increased resource efficiency through better collection and sorting.
<p>Key Takeaways:</p> <ul style="list-style-type: none"> • It is necessary to integrate decentralized mobs across the country, help them setup recycling & technology-based material recovery facilities of different sizes & help them create value chain. • Need for developmental policies to promote the usage of biofertilizers & Bio- fuels such as Bio-CNG. • Develop an infrastructure to promote Circular Economy and sustainable activities. The result of CE is positive and high, but the kind of infrastructure required is still missing.
<p>Session 8: Creating a Circular Economy for Marine Litter through Extended Producer Responsibility</p> <p>Chair: Ms. Supriya Sahu, Principal Secretary, Department of Environment, Climate Change and Forests, Government of Tamil Nadu</p> <p>Moderator: Dr. Rachna Arora, Team Leader, European Union Resource Efficiency Initiative (EU – REI)</p>
<p>Objective:</p> <p>To explore the potential opportunities on how EPR can be used as an effective mechanism to address the issue of marine litter through government perspective, industry viewpoint and stakeholder engagement.</p>
<ul style="list-style-type: none"> • Effective plastic bans and promoting alternatives to plastics, imposing fines are few steps taken by the Tamil Nadu and Kerala Government. • GIZ project in collaboration with Ministry of Environment, Forests & Climate Change along with state governments to create awareness to prevent marine litter in ecosystem. • EXPRA- An alliance for 26 packaging and packaging waste recovery and recycling systems from 24 countries, are working as the authoritative voice and common policy platform. As highlighted, it is a challenge to develop more sustainable packaging and hence an opportunity for all stakeholders along the value chain. • Lucro Plastecycle- They collect, segregate, process granules, product design and manufacturing of these products - serving across categories like automotive, home, retail, and institutions, among others. Through various practices and technology upgradation, Lucro showcased their solutions to achieve circularity.
<p>Key Takeaways:</p> <ul style="list-style-type: none"> • There is an urgent need in scrutiny in the way plastics are designed, produced, used and managed to better understand how to increase their ability to circulate it back into the system & recovering maximum value. • Ensure cross border collaboration for better implementation and sharing of innovative practices & tried and tested market approaches should be identified and implemented geographically. • EPR scheme is a very effective method to achieve true circular economy and hence should be implemented effectively.

- Promote international agreements that focused majorly on upstream part of the lifecycle to enable sustainable product design & fosters sustainable consumption of resources.
- Registration of all the stakeholders under EPR on a single digital platform.
- Monitoring collection, segregations, transportation etc. through a digital traceability platform.
- Replicating successful pilots across ULBs by enhancing capacities of local stakeholders.

Session 9: Demonstration Session: Award winning Innovations - Indian Circular Economy Awards 2021

Moderator: Mr. Surojit Bose, Associate Vice President, Hindustan Coca Cola Beverages Pvt Ltd

Objective:

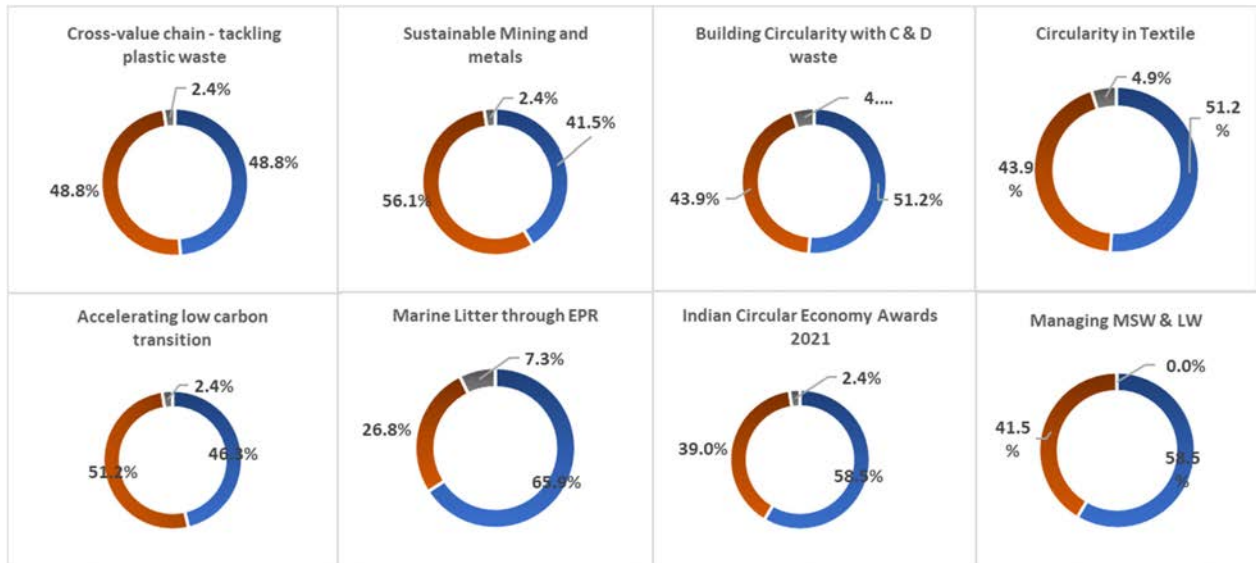
To showcase 8 award winning innovative solutions from organizations who have made strides in circular economy. The solutions will prove to be very valuable for individuals and organizations who are looking to unlock CE in their businesses.

Solutions Discussed:

- **Tata Steel Limited-** They have established dedicated Profit Centre for waste management. Handled 13 million tonnes Per Annum (MTPA) of by-products spanning across 20+ product categories, comprising more than 250+ SKUs to generate a revenue of ~3000 Crs.
- **UltraTech Cement Limited-** They have adopted concrete recycling in their plants since inception. Use of Red mud as additive helped reduce raw mix cost by 1.28 MT, utilized 1.5 lakh tonne waste volume by co-processing. Have achieved 3.96 times water positivity & diverted 44,000 tonnes of agricultural waste from open burning by substituting coal in cement kiln.
- **GRP Limited-** They are into responsible production of reclaim rubber with more than 300 suppliers. Every year around 1.7 million of Tyres are being saved from landfill & reduction in 25372MT CO2 emissions. About 3600 MT of recycled nylon used, reduction in consumption of wood by 1200 MT thereby resulting in 5400 trees saved per year.
- **Luthra Group LLP-**They are an expert in undertaking the pre-processing of hazardous waste at Alternate Fuel Resource Facility supplying the same as a fuel to the cement industries. The group has 08 Nos. of such Pre-processing facilities across various state of India, with Alternate fuel supply at 2,50,000+ MT per annum covering approximately 60% of the key industrial zone in the country.
- **Padcare Labs-** PadCare is an automated hygiene management system that generates harmless, recyclable output out of used sanitary napkins. Through multi-step mechanics, it breaks down absorbent sanitary waste into two by-products - cellulose and plastic.
- **Recykal-** They are a digital Marketplace and provide Smart Centre Solutions for dry waste collection to ensure proper recycling. Currently operating in 28 states and 6 Union Territories and channelizing more than 20,000 MT of waste each month.
- **Birla Institute of Technology Management-** Ever since 2009 onwards, the institute has been taking actions to reduce its carbon footprint through various energy efficiency measures. Their various initiatives include Plastic waste for road construction, activated carbon from waste/spent coffee Powder, Pavement blocks from slag, flooring tiles and building blocks from waste marble dust, Heat insulation blocks from stone dust etc.
- **Society for Child Development-** It is an NGO which provides skill development & livelihood to marginal & disabled strata of society through various initiatives like trash to cash. Their famous Avacayam initiative is to recycle flowers that are left behind in temples & hotels to organic skin-friendly colours.

FEEDBACK SUMMARY

Session Feedback



Mr Amitabh Kant
CEO, NITI Aayog

“NITI Aayog believes that circular economy principles would help improve efficiency, impart competitiveness, reduce social cost & address the environment challenges & provide new business opportunities”.

Let me express my sincere appreciation for the continuity of initiatives & engagements & keen interest of the FICCI National CE Committee in this fast-emerging Circular Economy domain.



Mr H E Ugo Astuto
E.U Ambassador to India

Very apt topics were covered in the symposium and all industries were covered where there is need of circularity business concepts. Looking forward for the next Symposium where more knowledge on various upcoming topics and innovations will be shared on this platform.

- Snehal Hartalkar
Recity Network Pvt Ltd

Very interesting sessions with enriched knowledge and eminent speakers, came to know more about new innovations in India on CES

-Deepa Govindarajan
SABIC

The quality of the deliberations and design of program is far better than similar events arranged by other trade bodies/organizations

Sanjay Harlalka
Hindustan Unilever Ltd

PARTICIPANTS PROFILE

12% Consultant & Service Provider 12% Government 67% Industry 9% Students

ANNEXURE 1: BRIEF SUMMARY OF KNOWLEDGE REPORT

BEYOND INCREMENTALISM

A pulse check on India's circular transition

EXECUTIVE SUMMARY

FICCI CIRCULAR ECONOMY SYMPOSIUM 2021

1901

2020

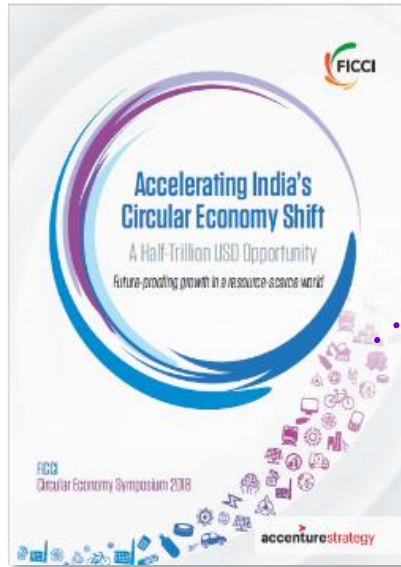
 **accenture**


75
Azadi Ka
Amrit Mahotsav

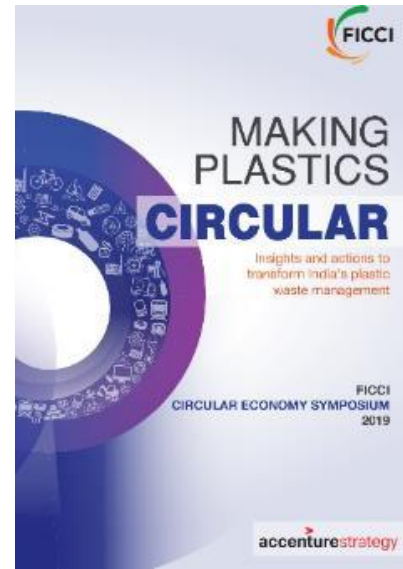
 **FICCI**

Warming Stripes for India (1901-2020) adopted from the work of Professor Ed Hawkins at University of Reading (<https://showyourstripes.info/>)

FOR LAST FOUR YEARS, FICCI AND ACCENTURE HAVE COLLABORATED TO ACCELERATE CE AGENDA IN INDIA



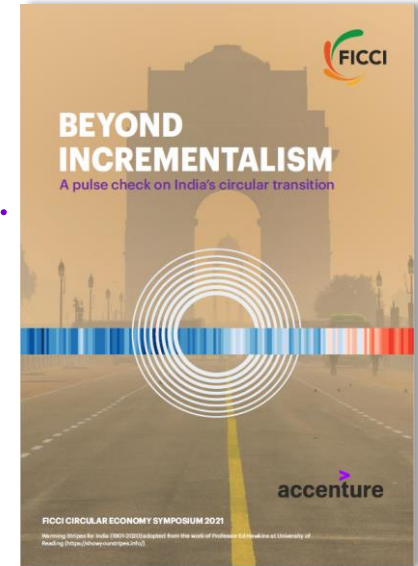
**Accelerating
India's CE Shift**
2018



**Making Plastics
Circular**
2019



**Sustainable Plastic
Packaging in India**
2020

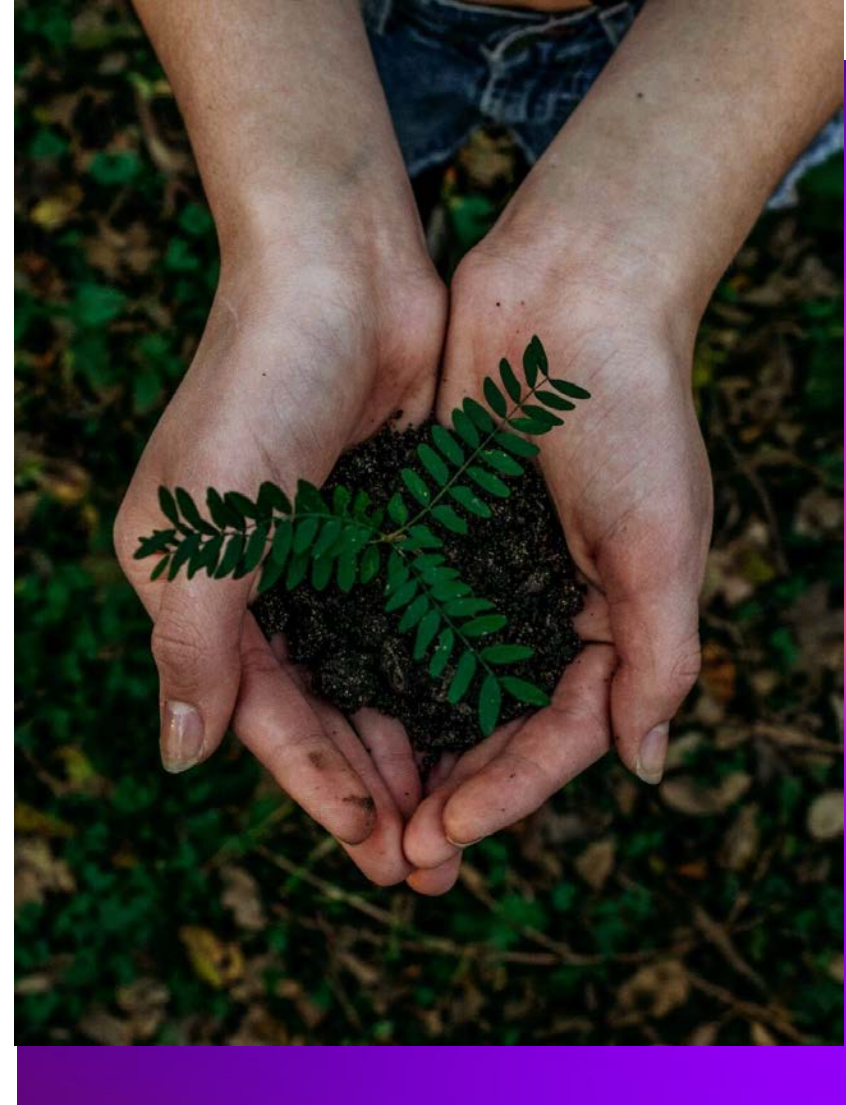


Beyond Incrementalism
2021

STUDY OBJECTIVES

a. What do business leaders think about the current status and outlook of CE?

b. How can CE help India meet its Net Zero by 2070 ambition?



OUR METHODOLOGY

50

respondents to the survey

Analysis of survey response from over 50 business and sustainability leaders. Survey consists of 18 questions and encapsulates the current and outlook of circular economy in India

10

one-on-one interviews

More than 10 in-depth one-on-one interviews to validate the survey findings and to get a nuanced view of key topics

100

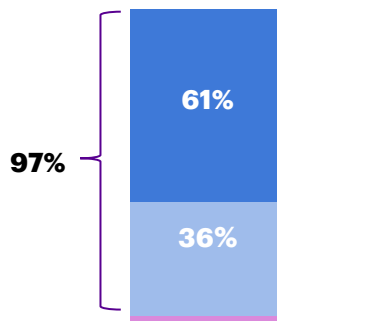
top Indian companies by market capitalization

Analysis of top 100 Indian companies by market capitalization to benchmark CE practices and check the overall understanding of organizations towards CE

1

INDIA INC. IS BULLISH, NOW IS THE TIME FOR AMBITIOUS TARGETS AND COMMITMENTS

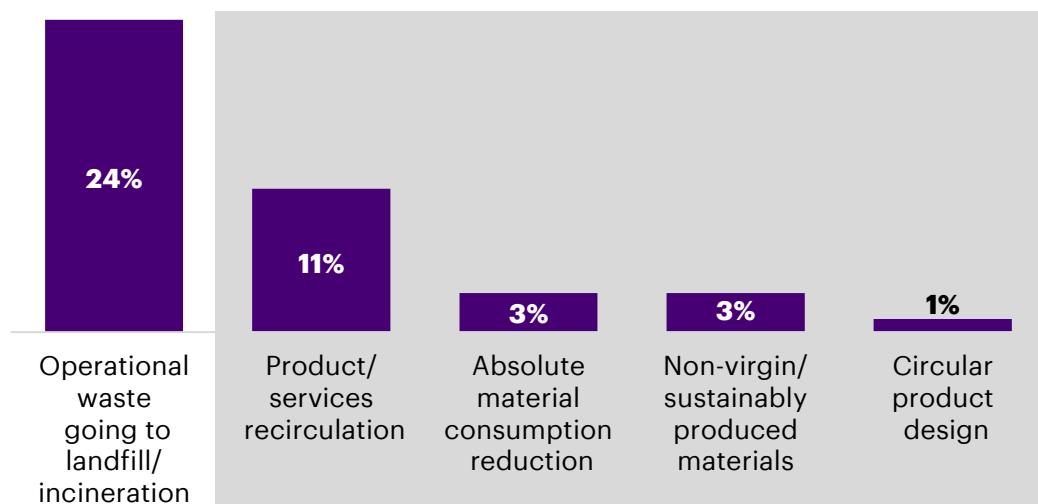
High on awareness...



Our organization understands the link between company's financial performance and sustainability performance

- Strongly agree
- Agree
- Neither disagree nor agree
- Disagree

..But low on commitments



← % of top 100 Indian companies by market capitalization with CE related commitments/ targets →

Key takeaways

1 **97%** organizations surveyed understand the link between **company's financial and sustainability performance**

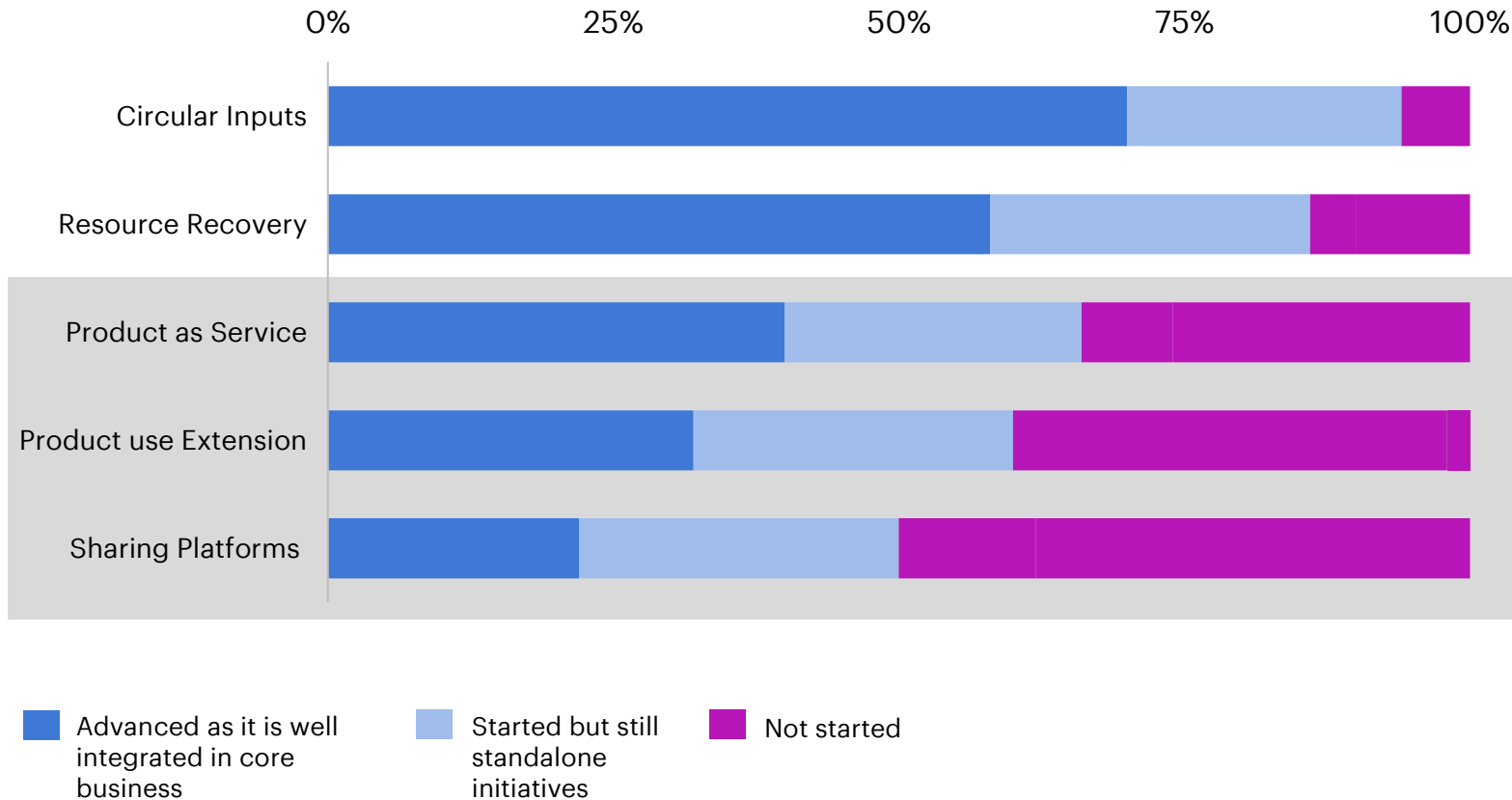
2 But there is a **lack in the adoption** of CE-related targets and commitments. Of the top 100 Indian companies by market cap, **only 7 companies have comprehensive public disclosure of CE KPIs**

Survey Question: To what extent do you agree with the following statements on the circular economy?

2

GOOD PROGRESS ON MATERIAL-BASED MODELS, PRODUCT-BASED MODELS NEEDED TO UNLOCK FULL VALUE

Adoption of five CE business models



Survey Question: To what extent are the following business models adopted in your organization?

Key takeaways

1

Adoption of material-based CE business models, namely, **Circular Inputs and Resource Recovery** is quite prevalent

2

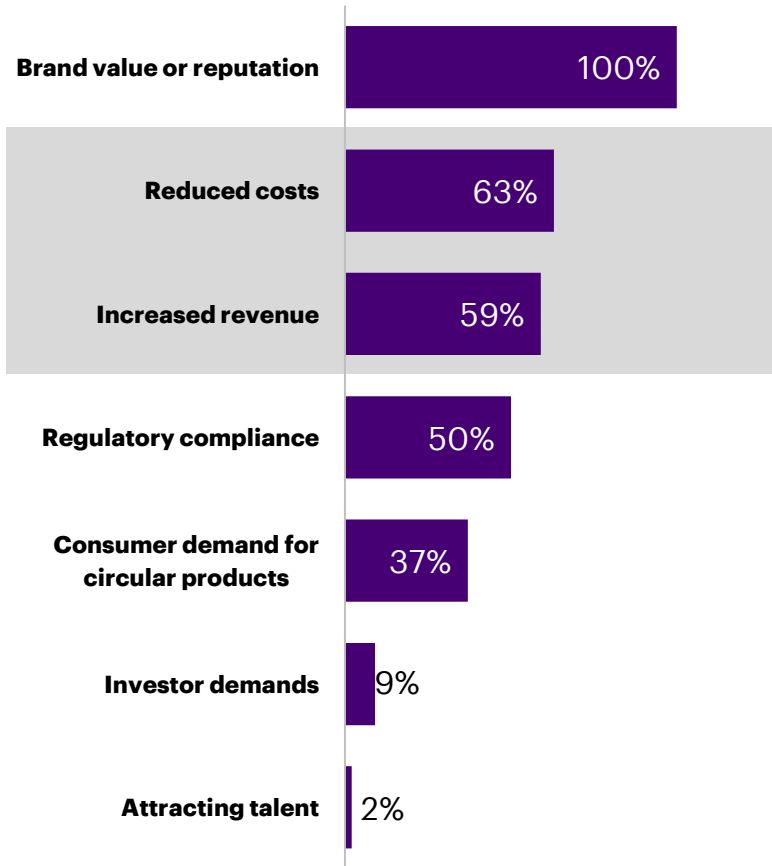
Product-based CE business models such as **Product use Extension, Product-as-a-service, and Sharing Platforms** have some catching up to do



3

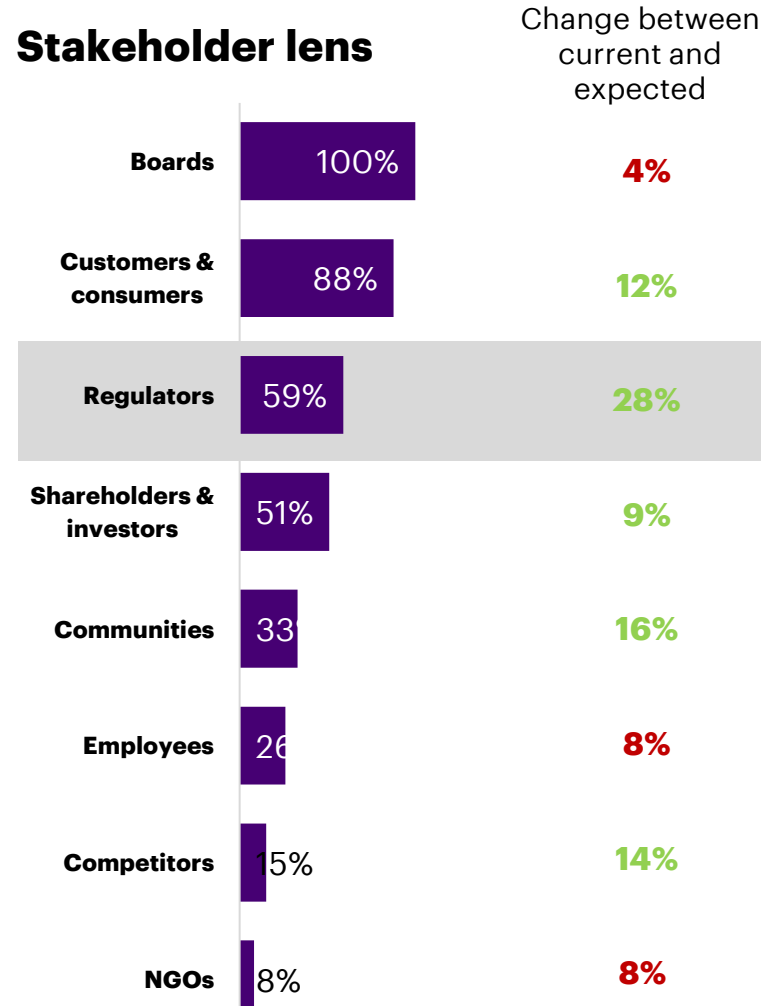
PROFITABILITY AS THE DRIVER OF CIRCULARITY, PUSH FROM INVESTORS MISSING

Business value lens



Survey Question: What are the key drivers of circularity at your organization?

Stakeholder lens



Survey Question: Which stakeholders will have the most influence over the circularity agenda?

Key takeaways

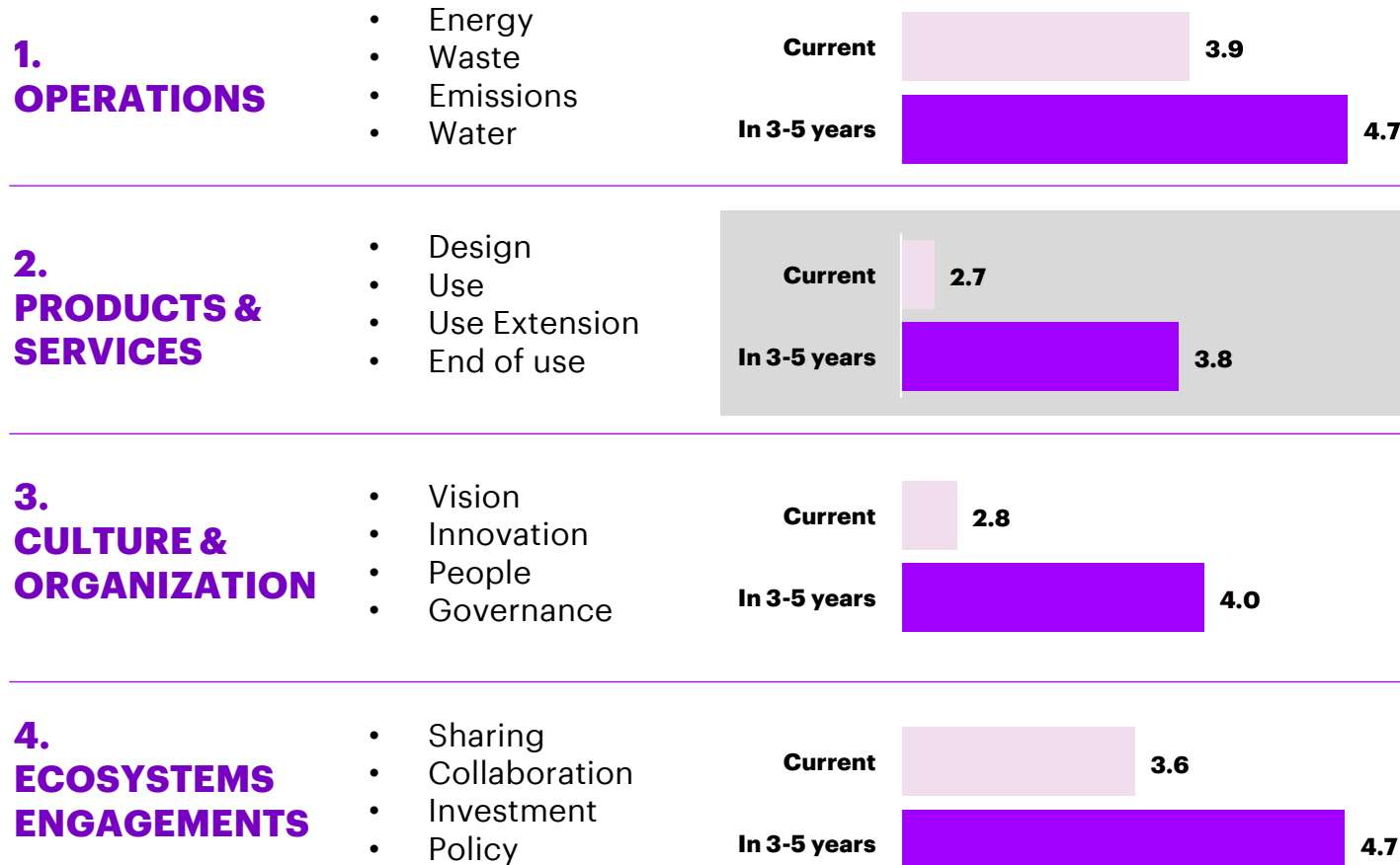
1 Brand value and Reputation ranked 1 in key drivers of circularity within the organization

2 In near term, it is expected that the **policymakers will be playing a much more significant role**

4

CIRCULARITY IN PRODUCT AND SERVICES NEEDS MORE FOCUS IN COMING 3-5 YEARS

Four CE fundamental dimensions



Survey Question: What is your organization's current maturity across the four fundamental dimensions of circular economy transition and investment priorities in next 3-5 years?

Key takeaways

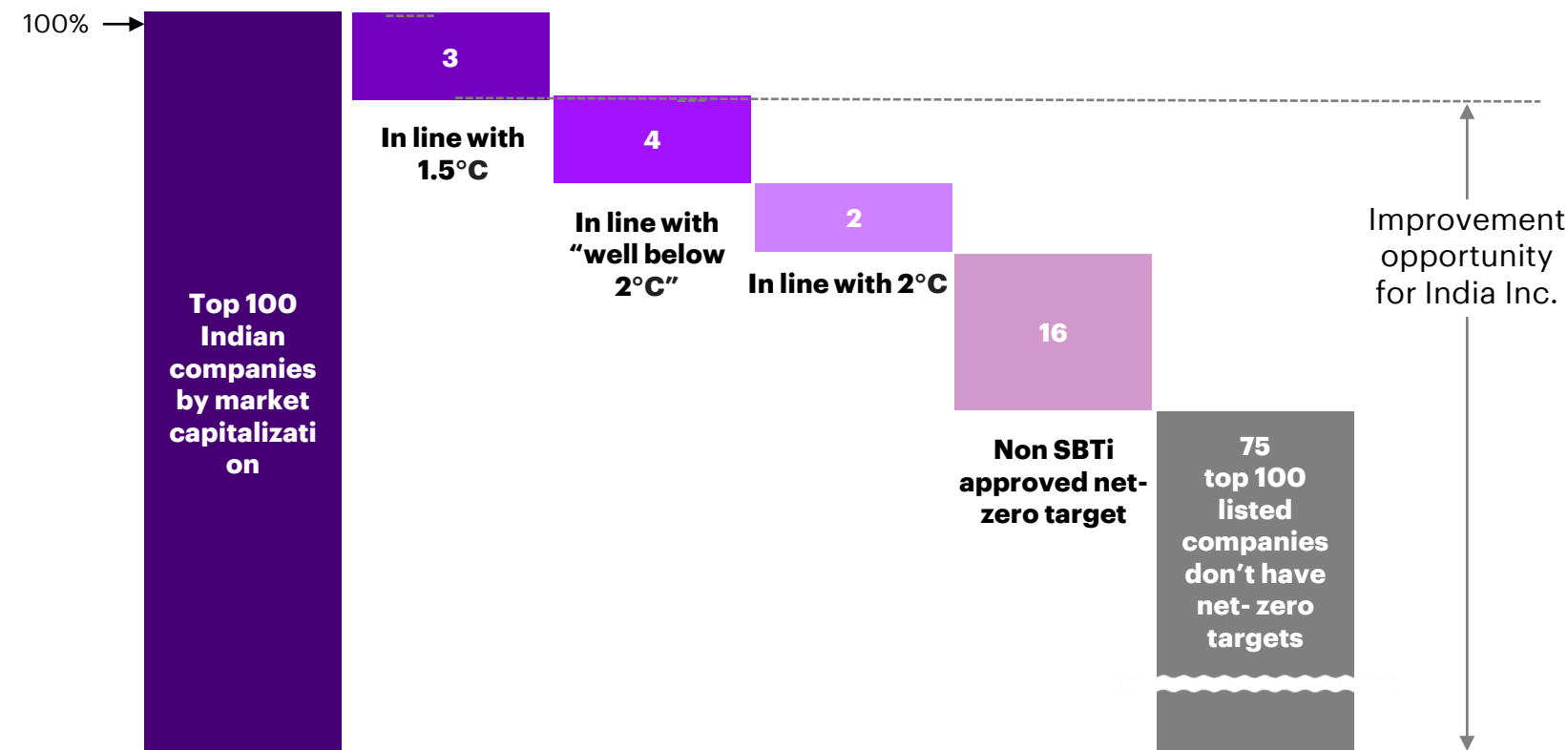
1 Currently, Indian businesses have **high maturity on Operations and Ecosystem** and **low on Products and Culture & Organization**

2 In next 3-5 years, while **prioritization of culture & organization ("soft wiring") will increase**, it is **expected to remain low for circularity of product design ("hard-wiring")**

5

COUNTRY'S NET ZERO BY 2070 GOAL IS A BIG OPPORTUNITY, INDIA INC. NEEDS TO RAPIDLY READY ITSELF

Assessment of decarbonization commitments of top 100 Indian companies by market capitalization



Key takeaways

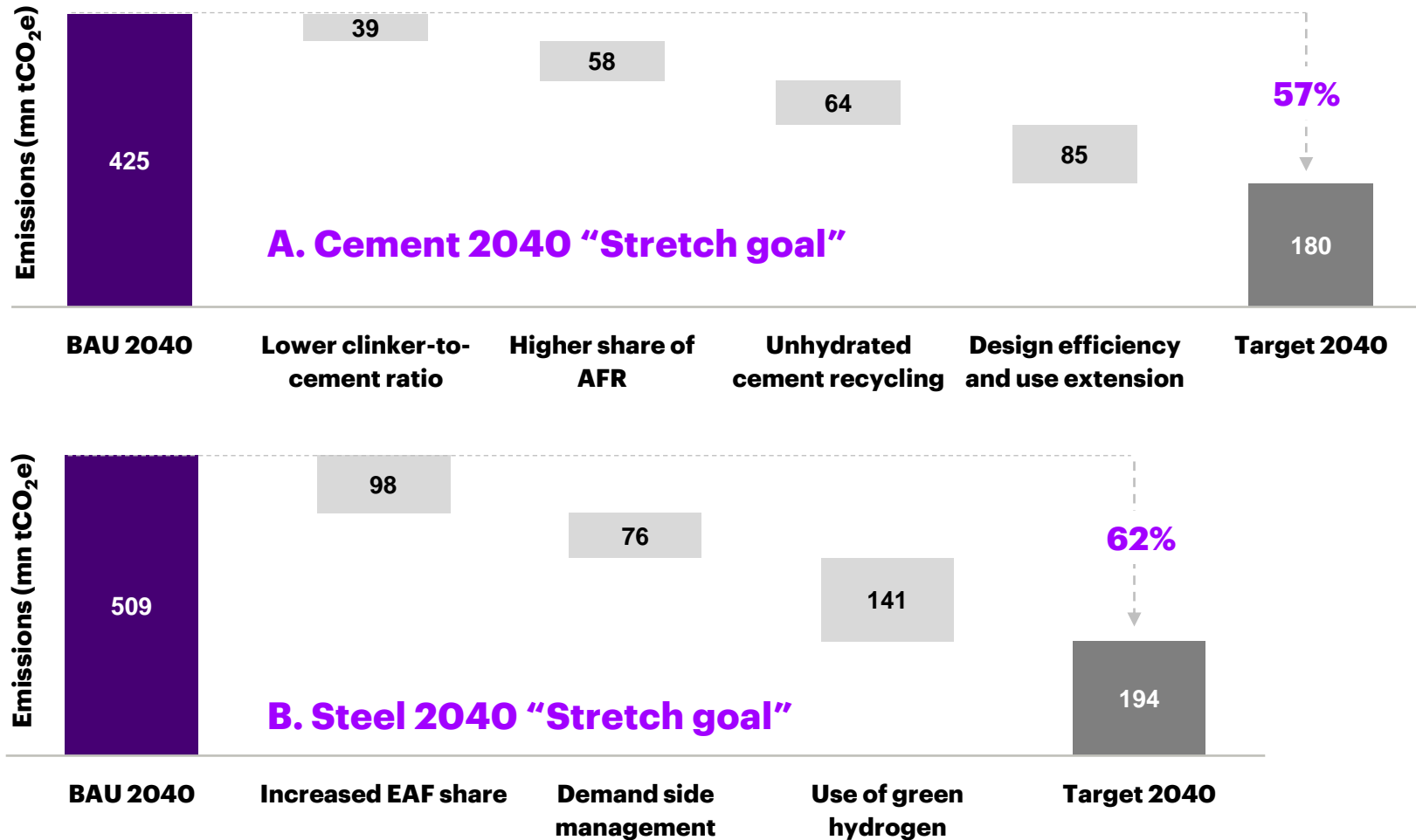
1 Only 9% among top 100 companies by market capitalization **have SBTi approved net-zero targets**

2 75% companies of top 100 companies by market capitalization have not committed to any net-zero targets so far

6

EVIDENT THAT CIRCULARITY CAN PLAY A CRITICAL ROLE IN THIS DECARBONIZATION JOURNEY

Accenture's modelling of CE-based decarbonization pathways



Source: Accenture analysis

Key takeaways

1 Various simulations show **India needs to peak its emission by 2040** to be able to meet the Net Zero by 2070 ambition

2 **50-60% reduction in CO₂ possible** through a combination of CE interventions between 2020 and 2040

CALL TO ACTION

01 Establish a national CE framework

- Unified framework for CE and carbon measurement
- Standardised reporting and benchmarking

02 Strengthen the CE ecosystem

- Pre-competitive initiatives at scale
- Joint product development and route-to-market
- Open source knowledge sharing

03 Accelerate technology adoption

- Indigenization of OEMs
- Increased R&D investments in physical (e.g., low-carbon materials) and biological (e.g., plant-based proteins) technologies

04 Supercharge the operating model

- Circularity in product and service by design
- Ring-fenced funds for CE and net zero projects
- CEO-sponsored governance with participation of CFO, COO, CTO and CMO etc.

05 Invest in creating a market demand

- Circular consumer value proposition with minimal green premium
- Consumer communications and national level awareness campaigns

“Adopting policy recommendations that takes into consideration the lifecycle perspective is necessary to accelerate the transition towards a circular economy.”

Ashok Menon, Director of Sustainability & CE, SABIC

“We started with ensuring zero waste to landfill and have added focus on resource efficiency in product design. Circularity by design could add 100x higher value over the life cycle compared to creating value from waste.”

Anirban Ghosh, Chief Sustainability Officer, Mahindra Group

“We have estimated that resource efficiency levers can directly impact 15 – 20% of the overall decarbonization goal for industries like steel, manufacturing, chemicals.”

Alka Upadhyay, AVP, Tata Sustainability Group

“The key task is to communicate the value of sustainability initiatives to the internal stakeholders. Things fall in place when you get the buy in. Even financing is no longer a challenge once the value proposition is communicated effectively.”

Prabodha Acharya, Chief Sustainability Officer, JSW

“Measurement of circularity is definitely critical, at the level of products, at the level of BUs, and at the level of organization. But the approach needs to be simple and versatile enough that it is applicable to all sectors and industries.”

Dr. Pradeep Panigrahi, Head, Corporate Sustainability, Larsen & Toubro

“In order to be successful, typical CE initiatives need the whole ecosystem to develop concomitantly. Singularly, the initiative would achieve little. Ecosystem-level alignment would ensure speed and scale.”

Yogesh Bedi, Chief, Steel Recycling Business, Tata Steel

“There is a direct linkage between circularity and decarbonization. CE transition enables greater resource efficiency and helps avoid emissions for virgin materials.”

Arvind Bodhankar, Jt. Executive President & Chief Sustainability Officer, UltraTech Cement

“OEMs will have to start working with their design partners to bring circular metrics like % of recycled components in the drawing itself. Once these metrics are accepted at that stage rest of the value chain follows.”

Rajesh Sharma, AGM Sustainability, Hero MotoCorp

“We foresee the need for standardized and unified CE measurement and reporting framework which is locally customizable and relevant for India.”

Naresh Tyagi, Chief Sustainability Officer, Aditya Birla Fashion and Retail Ltd.

“Shift in consumer habit is most difficult to achieve and brands need to do more on making consumers aware and conscious of their buying decision. Key is to find a right solution which doesn't compromise on quality and price but is still sustainable.”

Willem Uijen, Executive Director, Supply Chain, HUL

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ACKNOWLEDGEMENT INTERVIEWS



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Earth Tatva Innovation
Eastman Chemical India
Eco eMarket
Ecovision Environmental Resources
Engineers India
E-Parisaraa
Global Cement and Concrete Association India
Goli Soda Sustainable Solutions
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UltraTech Cement
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Yes Full Circle Solutions





THANK YOU

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ANNEXURE 2: DETAILS OF ICEA AWARD

APPLICANTS DETAILS

- Over 75 registrations received for award, however 41 applicants were finally shortlisted for document level assessment (i.e. about 50% increase in number of applicants wr.t. numbers in the first edition i.e. 2019)

List of Applicants

Large Enterprise	Small & Medium Enterprise	Start-ups	Not-for Profit
<ul style="list-style-type: none"> DOW Chemicals Int. Ltd. Ultratech Cement TATA Steel Hindustan Unilever CMR Green Tech Ltd. Aditya Birla Grasim Industries JSW Steel Ltd. Rubamin Private Ltd. Aditya Birla Grasim Industries-Jaya Shree unit 	<ul style="list-style-type: none"> Greenscape Eco Management Pvt Ltd BPS Limited Luthra Group LLP Pashupati Excrusions Pvt Ltd. Ramky Reclamation and Recycling Ltd. Sara Plast Pvt Ltd. PHI Learning Pvt Ltd E-Parisaraa Ltd. GRP Ltd. Lucro Plastecycle Pvt Ltd Alphasan Health Solutions BVBA Rudra Environmental Solution India Ltd Tinna Rubber and Infrastructure Ltd Xynteo India 	<ul style="list-style-type: none"> Hydromet Technology Solutions Recity Network Pvt Ltd Recyckal Rekart Innovations Pvt Ltd. The Kabadiwalla TransWater Systems Davis Index PadCare Labs HelpUs Green LLP Yes Full Circle Gemcorp Technology & Recycling Solutions Ltd. Bare Necessities Zero Waste Solutions Pvt Ltd. AmplEarth Packaging & Systems Pvt. Ltd. Trishuavel Eshan Private Limited 	<ul style="list-style-type: none"> India Resource Trust Society for Child Development Sakaar Outreach Birla Institute of Management Technology

ASSESSMENT PROCESS

Stage 1: Preliminary Screening

- Receiving application of intent.
- Preliminary Screening of the applications

Stage 2: Desk Assessment

- Constitution of Assessment Team (4 teams of total 12 Assessors) – one team for each category under Assessment lead
- Finalisation of review criteria and scoring mechanism
- Review of each entry by at least 2 assessors for consistency and accuracy followed by discussion amongst team of assessors for each category to build consensus and shortlist applicants
- Ranking reviewed entries to shortlist top 25% entries – Maximum 3-4 entries per category

Stage 3: Sharing of Assessment Results with Jury (Meeting of Assessors Team with Jury)

- Sharing assessment summary of shortlisted applicants (3-4 applicants from each category) with Jury
- Discuss evaluation summary of all shortlisted applicants to select finalists

Stage 4: Presentation to Jury by applicants

- List of finalists prepared.
- Jury receives a 7- 8-minute presentation from finalists

Stage 5: Announcement of Winners (During CES 2021)

- Jury convenes discusses the observations from presentation.
- Select Winner and Runner-up from each category

ASSESSMENT TEAM

Category	Team Lead	Team Members
Large Enterprise	Surojit Bose, Associate V.P, Hindustan Coca Cola Beverage Pvt Ltd	Sumanda Bandopadhyay, Senior, SABIC Sunita Purushottam, Head- Sustainability, Mahindra Group
Small & Medium Enterprise	Alka Upadhyay, Assistant Vice President, Tata Sustainability Group	Ruhana Zariwala, Deputy General Manager-Corporate Sustainability, Mahindra Group Sohini Gupta, Manager-Group Sustainability, L&T Rachit Agrawal, Assistant General Manager, Aditya Birla Group
Start-ups	Jagdish Barik, Jt. President, Business excellence & Chief Sustainability Officer, Aditya Birla Textiles	Kiran Sarkar, Head-Sustainability, Mahindra Group Avinash Belamkar, Sustainability Manager, Mahindra Group Hoshedar Neemuchwalla, Mahindra

		Naimish Upadhyay, Deputy General Manager, Tata Sustainability Group
Not-For Profits	Hoshedar Neemuchwalla, Mahindra	Naimish Upadhyay, Deputy General Manager, Tata Sustainability Group

Jury Members:



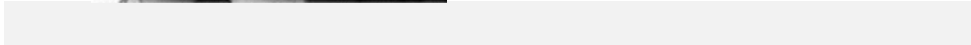
Chair:
Mr. Mukund Govind Rajan
Chairman
F-Cube Investment Advisors Pvt









Ms. Mridula Ramesh
Executive Director, Sundaram
Textiles Ltd & Founder, Sundaram
Climate Institute



Mr. Michael Bucki
Counsellor
EU delegation in India



AWARDEES OF ICEA 2021

Category	Joint Winners	
Large Enterprise	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>#WeAlsoMakeTomorrow</p> </div> <div style="text-align: center;">  </div> </div>	
Category	Winners	Runner-ups
Small & Medium Enterprise		
Start-up		
Not-For Profits	