MRAI 2025

INTERNATIONAL MATERIAL RECYCLING CONFERENCE

METAL | E-WASTE | BATTERY | ELVs | TYRE | PAPER | PLASTIC

28, 29 & 30 JANUARY 2025 NOVOTEL JAIPUR CONVENTION CENTRE

12th EDITION

POST CONFERENCE REPORT

JAIPUR 2025

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28, 29 & 30 JANUARY 2025 | NOVOTEL JAIPUR CONVENTION CENTRE

ASIA'S BIGGEST MATERIAL RECYCLING CONVENTION & EXPOSITION

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We will make Bharat achieve SDG and become AtmaNirbhar well ahead of its time

We are proud to note that this year, the 12th edition of IMRC was a record-breaking performance of event the kind of which was not witnessed ever in this scale and dimension in Asia and Europe.

The engaging and thought-provoking sessions and dynamic display of exhibitions were first rate. The event, including food and entertainment, was appreciated by near and dear.

As the President of the Material Recycling Association of India (MRAI), I thank all the Government Dignitaries, Delegates, Diamond Sponsors, Exhibitors, Partner Associations, and Media Partners for their participation. From the enthusiasm of the recycling fraternity and opportunities, I am confident to say that as an industry, we will wholeheartedly participate in making Bharat achieve Sustainable Development Goals and become AtmaNirbhar well ahead of its time.

Sanjay Mehta
President, MRAI

IMRC provided the largest networking opportunity to the global recycling industry

We are proud that MRAI's 12th IMRC 2025 received a record-breaking 2,500 delegates, including 600 foreigners, over 190+ exhibitors, more than 35 media partners, and over 45 + international and national associations representing 50 + countries.

The three-day extravaganza featured 25 enriching sessions representing various recyclable commodities and pressing national and international issues like GST and EU Waste Shipment Regulations. Over 190 exhibitors spread over 1 lakh sq. ft., provided the largest networking opportunity to its delegates from the global recycling industry.

I look forward to seeing you all at MRAI's 3rd International Business Summit 2025, scheduled for August in Malaysia.

Amar Singh
Secretary General, MRAI

SPEAKERS

- **MAJOR GENERAL K NARAYANAN**
  Program Director, NITI Aayog
- **SHRI VINOD KUMAR TRIPATHI**
  Joint Secretary, Ministry of Steel
- **MR. NAVEEN SHARMA**
  Vice President, MRAI
- **DR. SOMYA GURJAR**
  Mayor, Jaipur Nagar Nigam (Greater), Government of Rajasthan
- **MR. SANJAY MEHTA**
  President, MRAI
- **MR. DHAWAL SHAH**
  Senior Vice President, MRAI
- **MR. ZAIN NATHANI**
  Vice President, MRAI
- **MR. AMAR SINGH**
  Secretary General

The city of Jaipur is no stranger to MRAI's International Material Recycling Convention as the apex organisation of Recycling Industries in the country had organised its 4th edition in 2017. However, the royal splendour and grandeur of the three-day event held in January 2025 was more than a perfect match to the capital of Rajasthan, which is known for its majestic royals and magnificent vistas alluring tourists from across the globe. The 12th International Material Recycling Convention and exhibition was nothing less.

Jaipur Exhibition & Convention Centre (JECC) - Managed by Accor, which hosted the Convention, brought together more than 2500 delegates and 200 exhibitors. The event showcased innovation, networking, and sustainable solutions under one roof.

The seamless comfort of Novotel Jaipur Convention Centre adjacent to the hotel proved to be the perfect blend of functionality and convenience.

In his welcome speech Naveen Sharma described the record breaking IMRC 2025 as the Mahakumbh of Recycling.

Amar Singh, Secretary General, who excellently moderated the session set the context for the event. He also invited foreign delegates and companies to invest in India to benefit from the huge potential in the country as the emerging recycling hub of the world.

While the sessions on recycling commodities and related aspects of the international recycling trade and commerce were content-rich and thought-provoking, the exuberance that one witnessed at the expo was contagious, to say the least. These salient features along with the tasty hospitality

coupled with welcoming population helped to make this year's edition of IMRC the best and raised the bar of similar events. Undoubtedly, it is the largest of recycling expos and conferences in the whole of Asia and Europe.

In his presidential speech, Sanjay Mehta went eloquent about the various projects and programmes initiated by the Government under the visionary Prime Minister Narendra Modi. Especially he spelt out about Mission Life. He said: "Revolutionizing general outlook, our Prime Minister envisions to change individual and community behaviour to bring in significant impact on the environmental and climate crisis. Life's objective is to take individual and collective action for protecting and conserving the environment. Looking to bring in paradigm shift, Mission Life envisions three core transformations. Change in demand, change in supply and change in policy. "Simplistically put, Life, lifestyle for environment is a mission to help you identify simple acts in our daily lives that can contribute significantly to climate change. The ideology is designed keeping in mind that the actions will be specific and measurable, easy to practice by individuals, communities and institutions and non-disruptive to ongoing economic activity and in fact promoting economic activity on the foreseeable future.

"So, let's take a pledge today and show to the world that we are environmental conscious and can lead the path for the world to follow," he said.

"We always speak about sustainable, greener world. It was about our behavioral changes. Whatever we consume, whether it is food, clothes, vehicles, buildings, infrastructure, can we limit our consumption? Mr Mehta said. In this context he also remembered his predecessor, Chairman Emeritus Ikbal Nathani's famous quote 'Scrap is a mine above earth and any short wastage of scrap or impediments in recycling is a crime against future generations.'

He requested the recyclers to do a lot for the world, 'not for only our country, but for the world. My humble, request, let us do mindful consumptions. Let us change our behaviors.'

"I also commit to continuously motivate my family, friends and others about the importance of environmentally friendly habits."

TAKEAWAYS

- Mission Life aims at transforming human behaviour to bring in significant impact on the environmental and climate crisis.
- Need to create a nationwide campaign, a movement to create awareness and open opportunities in this sector.
- The future of the planet depends on how we deal with our resources.
- Everyone has a role to play in this transition, from government to business, communities, and individuals.
- Scrap is a mine above earth and any short wastage of scrap or impediments in recycling is a crime against future generations.

mahakumbh of recycling

"Your dedication and enthusiasm are the driving forces behind our shared mission. Together, let us embark on this journey towards a cleaner and more sustainable world," concluded Mr Mehta while expressing thanks to all the delegates, speakers, sponsors and organizers who have made the event possible.

In his special address, Dhawal Shah, Senior Vice President of MRAI, in his signature style, reminded the audience about the dream that MRAI took 13 years ago 'to dream, to collaborate, to integrate, to unite our industry and create a platform for knowledge sharing and growth of our industry.'

"Today is the culmination of those dreams and those efforts as we make history by becoming Asia's largest materials recycling conference,"

Keeping his speech metal specific, Mr Shah illustrated the example of the Statue of Unity, which is the world's tallest statue, standing at 182 meters of height, built on the banks of majestic Narmada River overlooking the Sardar Sarovar Dam in Gujarat.

"India's most robust, most iconic and most visited monument has recycling or recycled material in its foundation. So, give yourself a big round of applause for being a direct stakeholder in India's glory. And let us once again create history by making India a global recycling champion."

MAJOR GENERAL K NARAYANAN

"Our Prime Minister very passionately talks about the six hours and mission life. We have created

Mr. VINOD KUMAR TRIPATHI

successful programs like Atma Nirbhar Bharat, Viksit Bharat, Make in India, Startup India. Why not create a movement called Recycle India?

"We need to create a nationwide campaign, a real movement to create awareness and open opportunities in this sector. We've talked about higher availabilities of scrap, country after country, block after block is now trying to retain this green resource material within and empower their own industries. Today, perhaps, India is the only country which levies an import duty.

"Of course, it has an economic effect on this. We are not competitive, but alongside, what we are also trying to do is subdue or decimate our exports. "So, my humble plea here is that if you remove those duties on those raw materials, we will be able to reach out to the world. We will become next exporters of secondary metal products from India..."

"We have a very robust recycling industry and it's a national need, but we need to really simplify its policy approach. Currently, we have six to seven ministries into our day-to-day working," he said, adding, "I think we need to create one separate office under one ministry to deal with every aspect."

Mr. Vinod Kumar Tripathi, Joint Secretary, Ministry of Steel, in his address, talked about the recycling industry as a shining light opportunity in the face of challenges we face in the society in managing our resources efficiently and responsibly.

Acknowledging the work of MRAI in the recycling sector he said that the process of recycling creates vital employment opportunities, empowering individuals and communities.

"The foundation of all these efforts lies in principles of reduce, reuse, and recycle. By focusing on reducing our consumption of raw material, and reusing products wherever possible, and recycling material at the end of their life cycle, we create a system that is not only more sustainable, but also more economically efficient. The circular economy model ensures that fewer raw materials need to be extracted from the earth, significantly reducing environmental impact," he said before concluding, "We can build a thriving, sustainable future for all. All we have to have role to play in this transition, from government to business, communities, and individuals.

Major General K. Narayanan, an accomplished military leader and current program director of security and law at NITI Aayog, appreciated the work that "MRAI all of you are doing things right at this juncture when the world needs it."

"The future of the planet depends on how we deal with our resources. The Prime Minister has said, which has been quoted here extensively, that circular economy is the pathway to sustainability and growth."

The Major General informed the august audience that Niti Aayog plans to create a model not just for India, but a replicable model which can be used, adopted globally for sustainable development.

"What is the way ahead?" he asked. "It is not just recycling, but embracing the full spectrum of the nine R's, refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose and recycle. Charity begins at home," reminded the program director.

MATERIAL RECYCLING ASSOCIATION OF INDIA

Voice of the Indian Recycling Industry

About us

- Represents recycling industry in its entirety
- Membership of over 1400 stakeholders
- Collective strength of over 20,000 MSMEs
- Employs 25 lakh directly & indirectly
- Liaising network with Govt. of India and other regulatory authorities to facilitate industry growth
- Close association with national and international associations like ISRI, BIR, BMR, CMRA, EuRIC, BMRA, etc.
- Regularly conducts awareness programmes and conferences

Our vision

- To represent the Recycling Industry to Government and to address and resolve issues
- To promote all types of Recycling within India
- To obtain official Industry status for the Recycling Industry in India
- To promote and spread awareness regarding Recycling in India
- To promote Recycling as curriculum in educational institutions
- To set up Circular Economy Parks in the country
- To help promote R & D and technological upgradation of domestic Recycling Industries
- To estabilsh dedicated Government Department to look after Circular Economy initiatives
- To promote minimum recycling content in finish products

SESSION
STAINLESS STEEL RECYCLING: INDIAN ECOSYSTEM

TAKEAWAYS

- Harmonization with global best practices is crucial for enhancing competitiveness of the Indian steel industry
- To secure raw material supply, one must look at potential opportunities to collaborate with scrap collectors and suppliers, especially in SouthEast Asia
- There is a need to investigate the possibilities of anti-dumping duties on intermediary stainless-steel products being imported into India.
- To follow up on the implementation of the QCO (Quality Control Order) to regulate the import of intermediary stainless-steel products.
- Production rebounded to 58 million tonnes in 2024-2025, driven by traditional sectors (architecture, construction, aerospace, medical, etc.).
- Significant nickel, copper, and scrap requirements projected by 2031, including 58,000 tonnes of 304-grade and 4,500 tonnes of 316-grade scrap.
- 3D printing is gaining importance in stainless steel applications, especially for aesthetics and complex materials, with significant future advancements predicted.
- To emphasize organic growth, self-reliance, and increasing export capabilities within the stainless-steel industry.

The session served as a crucial platform for exploring the evolving landscape of the global and Indian stainless-steel industry. The central theme was India's ambitious vision of a $40 trillion economy by its centennial, with stainless steel consumption recognized as a key enabler of GDP growth. Panel discussions highlighted the global stainless steel industry's rebound, with production reaching 58 million tonnes in 2024-2025, driven by traditional sectors like construction, aerospace, and medical equipment. India's growth trajectory is supported by government initiatives such as the Bharat Mala project, although the nation currently relies on imports, primarily from the USA, with SouthEast Asia emerging in the scrap market.

The panel discussions addressed critical challenges facing the industry. Concerns were raised regarding the availability and cost of green steel scrap, the impact of NPI regulations on domestic production, and the potential effects of anti-dumping duties on vital intermediary products. They stressed the need for a balanced approach, advocating for both the development of green steel production capabilities and the continued use of conventional methods. The rising intrinsic value of aluminum scrap and its implications for the future of green stainless steel was also debated, with participants emphasizing the importance of maximizing green steel ratios to minimize environmental impact. Recognizing the interconnected nature of the global market, a South Korean representative suggested collaborative efforts to balance China's influence and support India's sustainable growth aspirations.

The conference also delved into the crucial area of stainless-steel recycling. The upcoming Carbon Capture and Trading Scheme (CCTS) in 2027 was identified as a significant mechanism for circularity. The CCTS, designed to incentivize low-emission production and penalize high-emission manufacturers, is expected to drive demand for recycled materials and create new opportunities for scrap processors.

From the technology perspective, it was observed that the role of 3D printing in stainless steel applications is widely increasing, particularly for aesthetic purposes and the creation of complex material combinations, was also explored.

Participants expressed optimism about the future of this technology, predicting significant advancements in the coming years.

Standardization plays a vital role in ensuring quality and promoting fair trade within the ferroalloy sector. The Bureau of Indian Standards (BIS) is actively engaged in this process, maintaining a vast library of approximately 25,000 standards covering product specifications, test methods, and guidelines. Recent updates to these standards, overseen by 21 specialized committees, include the addition of inoculant grades for ferrosilicon, revisions to ferromanganese and silicon manganese specifications, and alignment of ferrochromium standards with ISO international benchmarks. This harmonization with global best practices is crucial for enhancing the competitiveness of the Indian steel industry on the world stage. It was observed that MRAI plays a key role in advocating for green steel standards and promoting recycling initiatives, further emphasizing the industry's commitment to sustainability.

The panel discussions concluded with a strong emphasis on India's commitment to organic growth, self-reliance in the stainless-steel sector, and the importance of international collaboration, particularly with South Korea. The need for India to significantly expand its export capabilities, drawing valuable lessons from China's export-oriented approach, was a recurring theme.

Despite the challenges, the overall sentiment at the programme was one of optimism for the future of the Indian stainless-steel industry, with a clear call for continued collaboration and support from all stakeholders.

SPEAKERS

- **SHRI. VINOD KUMAR TRIPATHI**
  Joint Secretary, Ministry of Steel
- **MS. CHALLAKONDA VIDISHA**
  Member Secretary, MTD 5, Bureau of Indian Standards
- **MR. VED PRAKASH LATA**
  Senior Board Member & Director, Gemcorp Recycling & Technologies Pvt. Ltd. and Gemini Corporation N.V
- **MR. JOOST VAN KLEEF**
  Commercial Director, Oryx Stainless Group
- **MR. HITESH AGARWAL**
  Vice President of Sourcing, Jindal Stainless
- **MR. RITESH MAHESHWARI**
  Director, MRAI

SESSION UNLOCKING CARBON MARKETS AND ROLE OF RECYCLING IN CIRCULAR ECONOMY

UNLOCKING CARBON MARKETS

TAKEAWAYS

- Need to explore opportunities to integrate recycling within India's carbon market framework to contribute to emissions reduction and sustainable resource use targets.
- To investigate the use of digital MRV solutions to enhance transparency and traceability in the recycling sector's integration with carbon markets.
- To integrate urban recycling and waste management sectors with Indian carbon market mechanisms.
- To encourage partnerships within the industry for creating bundled carbon projects or other carbon financing solutions and boost scrap sourcing.
- Need for steel companies to conform to emission standards and qualify for green public procurement.

SPEAKERS

- **MR. SOUVIK BHATTACHARJYA**
  Fellow & Associate Director, Resource Efficiency & Governance Division, TERI
- **MR. ROHIT GARG**
  Director, NatureFIX India
- **MR. HARSH CHOUDHRY**
  Co-founder & CEO, Sentra World
- **MR. SANMIT AHUJA**
  Managing Director, Bharat Technology and Impact Accelerator (BharaTIA)
- **MR. YASHODHAN RAMTEKE,**
  Asst. VP, Carbon Business Unit, MMCM

Day 1 of IMRC 2025 provided a crucial platform for discussions surrounding the intersection of the circular economy and India's evolving carbon market framework.

A central theme was the pivotal role of recycling in achieving India's Nationally Determined Contributions (NDCs), particularly in light of the projected five-fold increase in material consumption by 2030. Participants emphasized the substantial emission reduction potential of recycling key materials, citing figures of 60% for steel, 90-95% for aluminum, and 60-65% for copper.

A significant portion of the session was dedicated to exploring the integration of recycling into India's carbon market architecture, recognizing the nation's status as the second-largest material consumer globally, trailing only China.

Digital Measurement, Reporting, and Verification (MRV) systems leveraging the power of Artificial Intelligence (AI) and blockchain technology were presented as indispensable tools for building trust and ensuring robust traceability within recycling streams. The complexities of integrating urban recycling into the Indian carbon market were explored in detail, considering the diverse stakeholders and logistical challenges involved.

The potential of Article 6 mechanisms, encompassing both Article 6.2 (bilateral agreements) and Article 6.4 (market-based mechanisms), to catalyze financial flows and support sustainable projects was a key focus area.

The engaging programme concluded with a strong sense of momentum and a shared understanding of the circular economy and a well-functioning carbon market's critical role in achieving India's climate goals.

WAYS FOR FASTER IMPLEMENTATION OF RECYCLING POLICIES TO ACHIEVE CIRCULAR ECONOMY

At IMRC 2025 in Jaipur, a panel discussion zeroed in on the need to speed up India's circular economy by synchronizing policies, technologies, and incentives. Experts underscored the necessity of comprehensive policies that seamlessly integrate tax incentives, technological advancements, and tariffs to propel growth in the recycling sector.

A key discussion point revolved around effectively integrating tax and regulatory policies to promote circular economy practices across the entire supply chain, from materials like paper and metals to diverse waste streams, including municipal, electronic, hazardous, and biomedical waste.

A significant challenge identified was the limited awareness and understanding of available recycling technologies. Upon discussing the challenges, the expert panel urged government initiatives to promote the use of recycled materials and explored the potential of industrial symbiosis, emphasizing the need to effectively map waste to resources. The crucial role of economic institutions in raising awareness and financing the recycling process was also highlighted.

The panel further advocated for a structured approach to national policies, including incentives for both industries and consumers, citing examples such as incentivizing renewable energy adoption.

The concept of Integrated Resource Recycling Parks (IRPs) emerged as a promising solution to co-locate recyclers, facilitate waste exchange, and streamline resource recovery. The IRP was showcased, with discussions addressing ongoing challenges related to plot allocation and the continuing need for government support. The transformative role of technology in creating digital ecosystems for recycling was emphasized, focusing on the importance of traceability and transparency.

The session concluded with a Q&As, addressing specific issues like tire recycling categorization and reaffirming that the economic value of recycled materials is ultimately determined by market acceptability and final use.

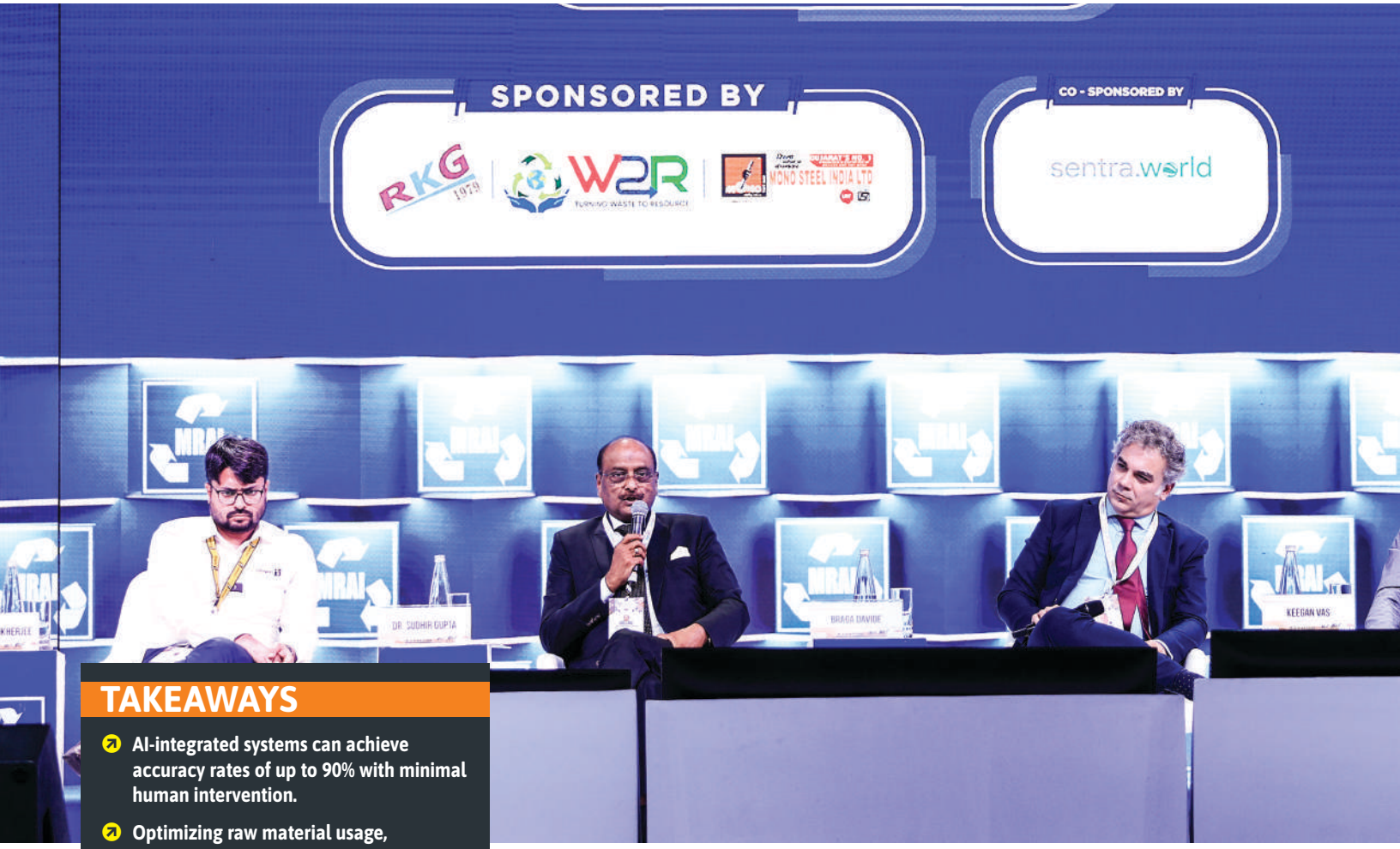
TAKEAWAYS

- Need to adopt a holistic approaches and specific mandates for managing waste streams.
- Promote use of recycled materials through tax incentives, policy mandates, and incentive schemes.
- Leverage technology to enhance supply chain traceability, enable real-time policy impact monitoring and implement scalable solutions.
- Address lack of understanding about recycling technologies through government initiatives and economic institutions.
- The economic value of recycled materials depends on market acceptability and final use.
- Addressing market dynamics crucial for successful recycling initiatives.

SPEAKERS

- **MR. RAJESH MAHESHWARI**
  CEO, NABCB
- **DR. VIJAI SINGHAL**
  Director, Greenhub Systems Pvt. Ltd.
- **MR. ABHISHEK DESHPANDE**
  Co-founder & COO, Recykal
- **CMDE. SUJEET SAMADDAR**
  MRAI Advisor
- **MR. ULHAS PARLIKAR**
  Director, MRAI

SESSION TECHNOLOGY IN RECYCLING: SORTING, SEGREGATION & PROCESSING OF SCRAP



TAKEAWAYS

- AI-integrated systems can achieve accuracy rates of up to 90% with minimal human intervention.
- Optimizing raw material usage, reducing ferroalloy and ramming mass consumption, conserving energy, and lowering carbon emissions can drive the industry towards a sustainable future.
- Increased scrap utilization is essential to meet growing demand and stringent CO_2 emission reduction targets.
- Managing contaminants in scrap is a significant challenge.
- Need for cost-effective recycling tech and solutions as demand for recycled materials grows significantly.

The IMRC 2025 conference in Jaipur served as a crucial platform for exploring the dynamic shifts and technological advancements shaping the material recycling industry. A central theme resonating throughout the presentations and panel discussions was the significant growth projected for the steel market, particularly in the coming decades. This growth trajectory is intertwined with the imperative to drastically reduce CO2 emissions, setting the stage for a transformation in steel production methods. The conference highlighted the increasing adoption of electric arc furnaces (EAFs) as a key strategy for achieving these emission reduction targets. The anticipated shift towards EAF-based steelmaking, coupled with the growing reliance on scrap as a primary feedstock, was a major focus of the discussions. This transition, however, is not without its challenges. Participants emphasized the need to ensure the production of high-quality steel grades from

scrap, maintain and even enhance EAF productivity to match integrated plants and accomplish this transition with minimal capital expenditure to preserve existing downstream operations. Perhaps the most pressing challenge identified was the need to minimize the overall CO2 emission footprint throughout the entire process.

During the discussion, the industry experts addressed the evolving landscape of the scrap market and the strategies being developed to meet these challenges. New scrapyard designs and advanced scrap processing technologies were highlighted as crucial elements in streamlining logistics and improving the quality of scrap feedstock. The increasing availability of obsolete scrap, particularly with the implementation of vehicle scrappage policies in various regions, was recognized as a significant opportunity. However, this also brings the challenge of managing contaminants like copper, which can be detrimental to certain steel types, and ensuring the production of high-quality steel grades from diverse scrap sources. The conference showcased innovative solutions aimed at bridging the gap between scrap processing and the specific requirements of final steel products.

Furthermore, digitalization emerged as a transformative force in the recycling industry, with presentations showcasing the power of data-driven insights and remote monitoring. Intelligent data extraction systems were demonstrated, enabling real-time access to machine performance data across multiple yards and locations.The role of digitalization in enhancing industrial safety was also emphasized, with demonstrations of thermal imaging and surveillance systems integrated into recycling equipment. The discussions explored the potential of these technologies to address challenges related to industrial safety, monitoring, and scrap management, particularly within the context of fragmented steel sectors.

While talking about processing, one of the experts highlighted the concept of "cold refining," or scrap processing, which is one of the significant and critical steps in preparing scrap for reuse. This process, which encompasses cleaning, sorting, sizing, and densification of scrap materials, was highlighted for its crucial role in achieving enhanced purity and density. The conference explored the synergy between scrap processing and artificial intelligence (AI), recognizing the potential of AI to optimize every stage of the recycling process.

Beyond steel recycling, they also delved into the specific challenges and solutions for aluminum recycling with the experts focusing on upgrading aluminum extrusion and profile scrap, as well as stainless steel scrap, to produce premium aluminum products. Advanced sensor sorting technologies, including X-ray transmission (XRT) and laser-induced breakdown spectroscopy (LIBS), were highlighted for their ability to separate different aluminum alloys with high precision. These technologies enable the production of high-quality aluminum concentrates that can be directly reintroduced into the production cycle, contributing to a more circular economy for aluminum. The conference provided a comprehensive overview of the material recycling landscape, highlighting the industry's commitment to sustainability, efficiency, and technological innovation.

SPEAKERS

- **MR. ABHISHEK MUKHERJEE**
  Head of Sales India, Steinert GmBH
- **DR. SUDHIR GUPTA**
  Director, Advance Hydrau-Tech Pvt Ltd
- **MR. DAVIDE BRAGA**
  Sales Director, Danieli Centro Recycling
- **MR. KEEGAN VAS**
  General Manager- East, India & Turkey, Lindemann Metal Recycling
- **MR. MAHENDRA NIMKAR**
  Commercial Leader- South Asia, Hitachi Hi-Tech India Pvt Ltd
- **MR. USMESH RATHI**
  Director, ICON Steel

SESSION POLICY INITIATIVES IN TRADE (SCRAP)

TAKEAWAYS

- Investigate availability of recycled copper and aluminum globally to prepare for potential export control petitions.
- Need to continue to work with the US government on tariff exclusions for recycling industry-specific products.
- Make the end-of-life vehicle policy mandatory and improve the business efficiency of registered scrapping facilities.
- Southeast Asia's conducive environment and policies attract manufacturing shifts from the US and China.
- Investing in Southeast Asian countries could offer significant advantages and cost benefits.
- India's progressive policies are promoting responsibile recycling practices
- Need for international collaboration to address industry challenges

The 12th International Material Recycling Conference (IMRC) in Jaipur emerged as a pivotal platform for discussing the intricacies of the global scrap trade. This event drew representatives from various countries, each sharing their policy approaches to managing this multifaceted sector.

While exploring the global trade policies, the industry experts highlighted a few examples. Malaysia's Policies and Challenges Malaysia's strategy involves leveraging its participation in free trade agreements, notably the ASEAN-China Free Trade Agreement, along with the "zero code" policy introduced in 2022. This approach, enhanced by stringent inspection processes and third-party verification by entities like Foodtech Nub, aims to mitigate the influx of low-grade imports. Despite these efforts, the persistent issue of contaminated cargo remains a challenge, highlighting the tension between facilitating trade and ensuring environmental protection. The country's trade agreements continue to attract producers, underlining Malaysia's appeal in the global scrap market.

Indonesia's Restrictive Approach Indonesia has adopted a stringent policy with a 2% contamination limit for scrap imports. This policy necessitates rigorous inspections and certifications, often requiring companies to register with the Indonesian embassy and undergo third-party inspections. Excessive contamination can result in outright rejection of shipments, creating significant trade barriers. As a result, the export of waste to Indonesia is limited due to these demanding procedures.

Vietnam's Regulatory Framework Vietnam, an emerging economic power in Southeast Asia, manages scrap imports through quotas and thorough inspections. Aluminum is a major component of Vietnam's

SPEAKERS

- **MR. COLIN KELLY**
  Chair, ReMA
- **MS. ROBIN WIENER**
  President, ReMA
- **MS. SUSIE BURRAGE OBE**
  President, BIR
- **MR. ARNAUD BRUNET**
  Director General, BIR
- **MR. ANSHUL GUPTA**
  Founder & CEO, PGI
- **MR. SANJAY MEHTA**
  President, MRAI
- **MR. AMAR SINGH**
  Secretary General, MRA

scrap imports, and the country's participation in various free trade agreements is expected to increase these imports.

India's Progressive Policies India has distinguished itself with a practical, progressive, and dialogue-based policy framework that promotes responsible recycling practices. This approach has attracted higher-grade scrap to the country. Indian companies have demonstrated their ability to meet stringent documentation and sustainability requirements. Furthermore, the export of recycled material to non-OECD countries is regulated to ensure responsible practices.

Middle East's Circular Economy Initiatives the Middle East, particularly the UAE and Saudi Arabia, is championing circular economies. These nations use export duties and restrictions on metal and paper exports to promote resource recovery and domestic processing. Saudi Arabia has implemented restrictions on lead metal exports and is actively promoting carbon credits, demonstrating its commitment to environmental sustainability. The development of new aluminum and copper plants in Saudi Arabia suggests potential future export restrictions as the nation prioritizes domestic value addition.

MRAI and the Bureau of International Recycling (BIR) highlighted their advocacy efforts, emphasizing responsible recycling practices and the industry's commitment to navigating the evolving global regulatory environment.

Formation of REMA and Future Outlook The formation of the Recycled Materials Association (REMA), focusing on sustainable materials, reflects the industry's evolving priorities. Discussions covered trade barriers in South Asia and the need for international collaboration to address these challenges effectively.

The conference underscored the importance of market access, particularly for the US, which exports $27 billion in recycled materials annually, with India as a key partner. The conference concluded with a call for continuous engagement with government authorities to promote sustainable recycling practices and overcome trade barriers. The discussions underscored the interconnectedness of the global scrap trade and the importance of collaborative efforts to ensure its sustainability and efficiency.

SESSION RECYCLED NON-FERROUS METALS IN INDIA: ECONOMIC SUCCESS THROUGH SUSTAINABILITY

PANEL DISCUSSION ON RECYCLED NON FERROUS METALS IN INDIA: ALUMINIUM & ZINC

TAKEAWAYS

- Raw material availability is a significant challenge, as India has an import-centric ecosystem
- Despite efforts to increase domestic scrap collection, 60-70% of raw material demand in some sectors still depends on imports
- India aims to increase recycling rates to 50-60% within the next 20-25 years. Key measures proposed
  - Incenties to agencies to improve waste collection.
  - Formalization of the scrap ecosystem
  - Eliminate import duties on scrap
- Policy changes globally impact India's non-ferrous sector.
- India lacks sufficient domestic zinc scrap, requiring imports

SPEAKERS

- **MR. SHAKIL ALAM**
  Economic Advisor, Ministry of Mines
- **MR. PAUL COYTE**
  Trading Manager, Hayes Metals
- **MR. KUNAL SHAH**
  Head of Commodities Research, Nirmal Bang Securities Pvt Ltd
- **MR. DHAWAL SHAH**
  Sr. VP, MRAI
- **MR. MOHAN AGARWAL**
  MD, CMR Green Technologies Ltd.
- **MR. ANIRUDH JHUNJHUNWALA**
  CEO, J G Chemicals Pvt Ltd

The session on recycled non-ferrous metals in India took a deep dive into the world of aluminium, zinc, lead, and copper unlike anything like that happened in IMRC before. Thanks to the extremely proficient panellists it was extremely engaging and interesting.

Divided into parts, focus on aluminium, zinc and copper could shed light on the outlook on their markets, demand supply dynamics, pricing, etc. There was also intense discussions on the policy tweaks that are happening globally and how that is going to impact India.

MRAI's senior vice president Dhawal Shah drew the contours of the secondary metal industry and its future, which, he said, is very closely linked to the performance of the automotive sector in India.

Mr. Shakil Alam of Ministry of Mines' exposition was insightful as it threw up many guidance and suggestions on the policy allowing the industry to visualize its future.

He also talked about the need to explore policy options in India, whereby scrap generation in the country improves. Mr Alam has talked about improving recycling rates, converting the informal sector to the formal sector. His prediction was that there would be volatility and unpredictability in the industry .

While Mr. Mohan Agarwal presented the automotive segment, its current landscape and what it would mean for the secondary aluminium industry in India over the next five years.

Anirudh Jhunjhunwala looked at zinc: the scale, size, performance and the landscape of the zinc industry

The developments in EU was a real concern throughout the session, showing up the risks and implications for recyclers.

"The obvious argument is that in Europe you cannot consume the amount of aluminium that is generated and here is a country that obviously needs the secondary aluminium. So why it is going to have further restrictions on it?"

Copper being an important commodity, it found profound presentations and discussions at the event. The session discussed the market dynamics of copper, about sustainability and green energy demand for copper over the years and technological innovations that are expected to transform the supply side constraints.

Miss Hopkins spoke about what she thinks about the copper market. "India has not only its own markets, it's very well positioned to take a leading role in the global economy as well," she said.

Talking about copper outlook from a global perspective, she said the most significant challenge is definitely the high demand, which exceeds the supply of recyclable material as well as primary raw materials. "This trend will definitely continue in the future. As the global economy grows and technological advancements continue, the need for copper will increase. Sometimes we say this decade is truly ours because the demand for copper has never been as high as in this last period.

Mr Gayan from Blue Glance Consulting looked at market insights into the copper market trends 2025 and beyond.

An important point to look at is the energy transition, the green infrastructure, renewable energy expansion from sectors like solar, wind, and even the demand which are going to play a very important role for copper market demand.

"The projection shows that in 2026," he said, "we might even end up getting into a deficit market for copper. That's how the reflection will be seen from the primary copper side or the secondary copper demand side."

The question-answer session that followed was interesting for many reasons. Industry stalwarts from the copper recycling industry addressed some of the very pertinent questions.

TAKEAWAYS

- **Volatility is the new normal: Businesses must adopt strong risk management strategies to navigate price fluctuations.**
- **India must secure a stable copper supply by:**
  - **Developing recycling capabilities.**
  - **Negotiating trade agreements.**
  - **Reducing import duties on scrap.**
- **Recycling & sustainability will play crucial roles in bridging the supply-demand gap for copper.**
- **Decarbonization will continue to drive long-term demand for copper.**
- **Despite current surplus, 2026 may experience supply deficit due to increasing demand.**
- **Rapid growth in digital infrastructure means more copper is needed**
- **Copper prices rising due to supply shortages, while zinc supply is expected to increase**

GLOBAL DYNAMICS AND GREEN TRANSITION OF COPPER

SPEAKERS

- **MR. AUROBINDA GAYAN**
  Director, Bluglance Consulting Pvt Ltd
- **MS. INGE HOFKENS**
  COO, Aurubis
- **MR. DEVENDRA SURANA**
  MD, Bhagyanagar Copper Alloys Pvt Ltd
- **MR. JINESH SHAH**
  Director, Rajhans Impex Pvt Ltd
- **MR. KAMLESH JAIN**
  Managing Director, Jain Metal Group

SESSION DECARBONISATION & GREEN INITIATIVES BY STEEL INDUSTRY

DECORBONISATION & ACHIEVING NET ZERO CARBON EMISSIONS BY 2050

TAKEAWAYS

- To explore ways to make the secondary steel producers more competitive and compliant.
- To create more awareness and promotion campaigns for increased steel usage and consumption.
- To advocate for government incentives and policies to drive steel demand.
- To prepare the industry to meet the new requirements in accordance with EU regulations..
- To strengthen domestic infrastructure for scrap generation and support BSF policy.
- Need for stable government policy, and awareness on sustainable steel production.

SPEAKERS

- **MS. RITUPARNA NATH**
  Senior Editor- EMEA Ferrous Metal, S & P Global Commodity Insights
- **MR. SHRAVAN AGARWAL**
  Director, Guardian Castings Pvt Ltd
- **MR. ZAIN NATHANI**
  Vice President, MRAI
- **MR. NIKUNJ TURAKHIA**
  President, SUFI
- **MR. SANJAY MEHTA**
  President, MRAI
- **MR. YOGESH MANDHANI**
  President, AIIFA
- **MR. DHRUV GOEL**
  CEO, BigMint

At IMRC 2025, during a discussion that focused on decarbonizing the steel sector and achieving net-zero carbon emissions by 2050, industry experts highlighted the complex interplay between safeguard restrictions, import dependence, and the future of India's steel industry. While the initial context emphasized safeguard duties and their impacts, the core discussion however shifted to the broader challenge of decarbonization. A key point of discussion revolved around the transition to green steel. While safeguard duties and their efficacy were touched upon, the focus shifted to the challenges and opportunities presented by the global push for decarbonization. While the Make in India initiative was seen as needing a stronger focus on green steel production and consumption, the industry leaders urged the government to actively stimulate demand for green steel through strategic infrastructure spending, promoting affordable exports of green steel.

Additionally, the session addressed the challenges posed by international competition, particularly from China, and the implications of the EU's green steel taxonomy for Indian exports. The importance of stable, predictable government policies specifically designed to support green steel production, and support for secondary steel production target.

Overall, there is a need for a balanced approach that supports domestic industry while recognizing the importance of imports and adapting to the changing global landscape of steel production and consumption, with a clear and urgent emphasis on decarbonization.

GLOBAL STEEL DEMAND & OUTLOOK

During the IMRC 2025, the panelists while reviewing the global steel demand and outlook, painted a picture of a dynamic market navigating shifting production trends, evolving trade patterns, and emerging regulatory landscapes. While global steel production experienced a slight dip overall in 2024, India emerged as a notable exception, boosting its output by 6.3% to reach 149.6 million tons. Conversely, China, the world's largest steel producer, saw a 1.7% decrease to 1 billion tons, though its export volumes remained strong. However, India's scrap imports faced a significant 18% decline in 2024, reflecting changing dynamics in the availability and pricing of this crucial raw material.

The experts also explored the complex interplay of factors influencing these trends, including the rise of domestic sponge iron production in certain regions, which directly impacts demand for imported scrap. Logistical challenges, particularly those stemming from the Red Sea crisis, also played a significant role in shaping market dynamics, disrupting supply chains, and influencing pricing. Ferrous scrap prices generally softened across major consuming markets compared to the previous year, reflecting the complex interplay of supply and demand.

Looking forward, the panel expressed optimism about increased demand driven by infrastructure spending in key regions.

The resolution of ongoing geopolitical events could further stabilize and improve market conditions. Moreover, the growing emphasis on green steel production is expected to fuel demand for recycled materials, creating new opportunities for the scrap industry. However, the implementation of the Waste Shipment Regulation (WSR) presents a new challenge, particularly for scrap metal exports from Europe.

Efforts are underway to address the implications of this regulation and ensure continued access to scrap for consuming nations, highlighting the industry's proactive approach to navigating evolving regulatory landscapes. The overall sentiment from the panel pointed towards a positive outlook for the coming year, with expectations of increased demand and further evolution of market dynamics.

TAKEAWAYS

- To explore ways to make the secondary steel producers more competitive and compliant with environmental regulations.
- To work with the government to create more awareness and promotion campaigns for increased steel usage and consumption in India.
- To advocate for government incentives and policies to boost infrastructure spending and housing construction to drive steel demand.
- To follow up with the government on the upcoming EU regulations and prepare the industry to meet the new requirements.
- To submit a list of required scrap grades to the EU by February 15th, with justification, to seek exemptions from the Waste Shipment Regulation.
- To work together (suppliers and buyers) to ensure the Waste Shipment Regulation is viewed as a positive development, rather than a "ban", and collaborate to address any concerns.

SPEAKERS

- **MR. LEE ALLEN**
  Scrap Editor, Fastmarkets
- **MR. ZAIN NATHANI**
  MD, Nathani Group
- **MR. KEYUR SHAH**
  MD, Mono Steel (India) Ltd.
- **MR. PAUL BODKIN**
  Commercial General Manager, EMR Group
- **MR. SANJOY GHOSH**
  Head of Supply Chain Management, BSRM Steel

SESSION BATTERY RECYCLING: CIRCULARITY, SUSTAINABILITY & GREEN TRANSITION

POLICY ADVOCACY IN BATTERY RECYCLING

TAKEAWAYS

- India can secure a leading position in global battery.
- For transparency and accountability digital technologies are crucial.
- Effective recycling should target wide range of battery materials.
- Managing the growing volume of pre-consumer battery waste is essential for sustainable recycling ecosystem.
- Robust EPR frameworks, financial incentives and effective regulations will drive responsible recycling
- A circular economy model along with global partnerships key to maximize resource recovery.

SPEAKERS

- **MR. ANISH MANDAL**
  Partner, Deloitte Touche Tohmatsu India
- **SHRI V P YADAV**
  Director & Divisional Head,
  Waste Management – I Division
- **MR. ALN RAO**
  Head of Electronics Circularity, Recykal
- **MR. ASHISH BANSAL**
  Managing Director, Pondy Oxides & Chemicals Ltd
- **MR. PRATYUSH SINHA**
  VP-Special Projects, LOHUM Cleantech Pvt Ltd

Battery industry experts delved deep into the critical aspects of recycling, exploring its potential to drive circularity, sustainability, and a green transition. The panel discussion covered the evolving landscape of battery technologies, noting the growing adoption of different models like LFP, low-nickel, low-cobalt chemistries while recognizing lithium's long-term importance. It also highlighted India's potential to become a global battery recycling hub, leveraging its established recycling practices and technological progress.

They also identified some key challenges like demand uncertainty in the EV sector, need for robust battery traceability systems, and the complexities of managing the largely unorganized recycling sector.

Panelists stressed the importance of effective enforcement of regulations, including EPR rules, and the need for collaboration between state and central governments. The discussion also addressed the need for standardized HSN codes for black mass and recycled materials to improve traceability.

Technology's crucial role in addressing these challenges was a also persistent subject. Experts explored the potential of AI, digital platforms, and innovative solutions to enhance the identification, authentication, and tracking of batteries throughout their lifecycle. The importance of government support for R&D in emerging battery chemistries and recycling technologies was also emphasized.

The discussion also touched upon lifecycle of lithium-ion batteries, including the balance between refurbishment and recycling. The need for clear guidelines on storage and transportation given the projected increase in battery waste was also highlighted.

The session concluded the need for a collaborative framework involving different stakeholders to create a truly circular economy for batteries. Key metrics for success were also identified.

The importance of addressing the informal sector and plugging leakages through effective enforcement and incentives was also emphasized.

DISCUSSION ON R&D IN BATTERY RECYCLING

The 12th IMRC in Jaipur was an important event where people talked about battery recycling, sustainability, and the role of research and development (R&D) in promoting a successful green transition. They highlighted the need for a strong system of research and innovation to adopt new solutions for effective battery recycling. One major topic was the cost-effectiveness of recycling, especially with new battery types like Lithium Iron Phosphate (LFP), which have both challenges and opportunities.

Experts discussed advanced recycling technologies, such as direct recycling, which can reduce costs and environmental impact. However, a big problem is the lack of standardized battery labels, which makes sorting and recycling difficult. They suggested using technologies like QR codes or barcodes for better identification, with the European battery passport as a possible model.

They also talked about the challenges of collecting and safely transporting used batteries, especially as electric vehicle (EV) battery waste increases. Safety during collection, like considering the state of charge and discharge, is crucial to reduce risks. This highlighted the need for a robust system to manage old batteries safely.

Throughout the conference, the importance of collaboration between academia and industry was emphasized. Participants stressed the need to connect academic research with industry needs through more interaction, knowledge sharing, and partnerships. They recommended focusing on practical, industry-oriented research and designing batteries with recycling in mind. Collaboration between battery makers and recyclers was proposed as a key strategy.

While concluding the session, the industry experts highlighted some key areas including encouraging battery collection, changing GST rules, and the idea of urban mining. They also emphasized the need for more funding and government support for research and development in battery recycling to help scale up new technologies. They talked about India's potential to become a global leader in battery recycling, with a focus on adopting advanced recycling methods and recovering high-purity materials.

TAKEAWAYS

- Establish a clear and practical framework for battery identification to ensure efficient sorting and recycling processes.
- Embrace innovative technologies like direct recycling for economic viability and environmental sustainability.
- Develop robust logistics and safe transportation protocols to handle the anticipated surge in EV battery waste.
- Increase investments and policy support for R&D and scaling up promising technologies.
- Creating public awareness of the importance of circularity and sustainability to drive demand for recycled materials.
- Design batteries with recycling in mind from the outset and mandate partnerships before establishing manufacturing facilities to promote responsible end-of-life management.

SPEAKERS

- **MR. L. PUGAZHENTHY**
  Executive Director, India Lead Zinc Development Association (ILZDA)
- **DR. PARVEEN KUMAR**
  Program Head-Sustainable Batteries, Sustainable Cities & Transport, WRI India
- **MR. DEBI PRASAD DASH**
  Executive Director, India Energy Storage Alliance (IESA)
- **DR. JAYASREE BISWAS**
  Assistant Professor, IIT Bombay
- **MR. UTKARSH SINGH**
  CEO & Director, BatX Energies Pvt Ltd
- **MR. VINAY SHARMA**
  Head- Indian Operations, GDB International Inc.

SESSION GST MECHANICS: RCM AND TDS IN THE SCRAP TRADE

Of all the sessions at IMRC 2025, the one on GST find itself to be the most active, making it the most animated and argumentative. Arguments both pro and against were brought to the panel which addressed the issues threadbare.

Mr. Banka, our consultant, presented the context for the 2% GST-TDS, highlighting the persistent issue of fake billing within the sector. He explained the various attempts made by the association over the past seven years to address this problem with the Finance Ministry. Ultimately, the GST-TDS was implemented to combat fraudulent invoices and credit claims. Mr. Banka also clarified the process for obtaining refunds on accumulated TDS.

Following the presentation, a panel discussion ensued. Mr. Nitin Gupta and Mr. Jinesh Shah shared their observations, noting a reduction in fake billing since the introduction of the TDS in October 2024. However, Mr. Jayant Jain suggested it was premature to assess the long-term impact.

Later during the discussion, various association members expressed concerns about the implementation of the GST-TDS. They emphasized the significant working capital lock-up due to the TDS deduction and the difficulties encountered in obtaining

timely refunds. Mr. Naveen Sharma, VP of MRAI, assured members that the association would engage with the CBIC to streamline the refund process. Members further suggested that such significant policy decisions should involve consultation with all relevant trade associations.

A key point of discussion was the perceived lack of thorough consideration by the GST Council before implementing these notifications. Members felt that the blanket application of the TDS casts suspicion on all scrap suppliers, even legitimate businesses, questioning the genuineness of their purchases. This raised concerns about the authenticity of the entire scrap supply chain.

A recurring theme was the need for a more efficient and less disruptive system for GST collection and payment. Members proposed exploring a real-time GST settlement mechanism similar to the banking system. They argued that such a system would be more robust and less susceptible to manipulation. They were requested to submit a presentation outlining the proposed system, including a flowchart of the credit flow, for further discussion with the CBIC.

Another significant concern raised was the issue of unregistered dealers (URDs) sourcing mixed scrap from street collectors and rag pickers. Trade and industry associations reiterated their recommendation for a 2% incentive from GST collections for URDs. This would encourage them to integrate into the tax net through a reverse charge mechanism (18% GST payable by the buyer), potentially without any revenue loss. Despite existing notifications aimed at addressing URD purchases, fraudulent invoicing in this segment persists.

In conclusion, the 2% GST-TDS has presented several challenges for both buyers and suppliers in the industry. The discussions also highlighted concerns about working capital lock-up, difficulties in obtaining refunds, and the lack of consultation with trade associations. The need for a more efficient and transparent system, such as a real-time GST settlement mechanism, was strongly emphasized. The association will take the members' concerns and suggestions, particularly regarding the real-time settlement proposal, forward to the CBIC for further consideration.

SPEAKERS

- **MR. NAVEEN SHARMA**
  VP, MRAI
- **CA VIKASH KUMAR BANKA**
  Tax Adviser
- **MR. JINESH SHAH**
  Director, Rajhans Impex Pvt Ltd
- **MR. JAYANT JAIN**
  Director, G R Metalloys Pvt Ltd
- **MR. NITIN GUPTA**
  Director, RL Steel & Energy Ltd.

SESSION: E-WASTE RECYCLING: THE DRIVING FACTOR TO ACHIEVE THE VISION 2070

SUSTAINABLE POLICIES IN E-WASTE RECYCLING

TAKEAWAYS

- Need to develop cost-effective machines and machinery through R&D.
- Establishing clusters across states for collection, segregation, and extraction of materials, helping integrate the informal sector into the formal.
- To enhance efficiency and provide low-cost or no-cost technology to informal sector.
- Manufacturers of recycled waste will receive a 25% CAPEX incentive. Additionally, there will be incentives for makers who use secondary raw materials instead of virgin materials.

SPEAKERS

- **SMT. SUNITA VERMA**
  Group Coordinator, R&D in Electronics, MeitY, Govt. of India
- **SHRI. ANAND KUMAR**
  Director and Divisional Head, Waste Management – III Division, CPCB Shri. Bharat Kumar Sharma, Member Secretary, CPCB
- **DR. AJAY KAUSHAL**
  Scientist C, C-MET, MeitY, Govt. of India
- **DR. ASHOK KUMAR**
  Vice Chairman, Greenspace Eco-Management Pvt. Ltd.
- **MR. GUHA JAYARAM**
  Managing Director, Terranova Eco-Management Pvt Ltd
- **MR. PRAVEEN BHARGAVA**
  Founder & Director, Pegasus Waste Management Pvt Ltd
- **MR. ALN RAO**
  Head of Electronics Circularity, Recykal
- **DR. SANDIP CHATTERJEE**
  MRAI Advisor

On the third day of the IMRC 2025, the industry witnessed a timely panel discussion on e-waste, focusing on the crucial shift towards a circular economy. The conversation highlighted the evolution of e-waste management in India, moving from basic collection and disposal to a more strategic emphasis on material recovery. Panelists acknowledged that while initial efforts concentrated on the collection, the real challenge lies in recovering valuable materials, especially from complex components like PCBs. This shift in focus, driven by updated EPR regulations mandating material recovery targets for producers, is pushing the industry to innovate and meet the growing demand for recovered resources.

The discussion underscored the importance of PCB processing for recovering precious metals. Speakers emphasized the critical role of the recycling industry in not only improving technologies but also expanding the range of recoverable materials. This is vital for meeting the recovery targets and minimizing reliance on virgin material extraction. The panel also discussed the challenges of informal recycling practices and the need to integrate them into the formal system through training and support. Several speakers highlighted the need for financial support and incentives to encourage the adoption of advanced technologies and make recycling economically viable, particularly for materials with low or negative value.

The panel acknowledged the government's proactive role in promoting a circular economy. The vision of circular economy, championed by national leadership, is not just for today but also for India's future. The call to action for the industry was clear: seize the opportunity, expand capacities, and improve technologies to meet the increasing demands of a resource-constrained world.

IN ATTENDANCE:
SHRI. N. SUBRAMANYAM
(Scientist E, HSM Division, MoEFCC)

The critical role of e-waste recycling in achieving India's Vision 2070 and Net Zero targets was a central theme at the IMRC 2025 conference. It brought together industry leaders, policymakers, and experts to address the complex interplay between the formal and informal sectors.

The session highlighted the dominance of the informal sector in e-waste recycling, driven largely by economic factors.

Panellists emphasized the challenges faced by formal recyclers in competing with the informal sector on price and sourcing, despite adhering to higher environmental and labor standards. Pricing emerged as a major pain point, with producers often prioritizing cost over responsible recycling practices.

The need for robust collection systems was also underscored, with concerns raised about the current focus on high-value materials and the neglect of low-value or hazardous components.

Discussions revolved around strategies for formalizing the informal sector, including training, technology upgrades, and assistance with compliance. The importance of extended producer responsibility (EPR) schemes was highlighted as a mechanism to incentivize responsible recycling and ensure a steady flow of e-waste to formal facilities. Panellists also stressed the need for government support, such as incentives and subsidies, to level the playing field for formal recyclers.

Technology's role in optimizing recycling processes and enhancing competitiveness was a recurring theme. Experts discussed the potential of automation and AI to improve efficiency and the quality of recovered materials.

Data collection and documentation were identified as crucial areas for improvement, particularly within the informal sector, to better understand e-waste flows and track materials.

The panel concluded with a call for greater collaboration between stakeholders. The need for clear standards and certification processes was emphasized to differentiate responsible recycling practices and build trust among the stakeholders. The overall message was clear: a balanced approach is needed, one that recognizes the economic realities.

MARKET DYNAMICS AND ADVANCE TECHNOLOGY FOR MATERIAL RESOURCE RECOVERY

TAKEAWAYS

- E-waste management has evolved from collection and disposal to a strong emphasis on material recovery.
- EPR regulations now mandate material recovery targets, pushing producers and recyclers to focus on resource extraction.
- Advanced technologies are crucial for the recovery of precious metals
- Integrate informal sector into the formal
- Financial support and incentives are needed to encourage adoption of recycling technologies and handle low-value materials.
- The industry must invest in capacity building and tech advancements to meet future demands.
- Collaboration among government, industry, and stakeholders is vital for a successful transition to a circular economy for e-waste.

SPEAKERS

- **SMT. SUNITA VERMA**
  Group Coordinator, R&D in Electronics, MeitY, GoI
- **DR. KRISHNARJUN P**
  Executive Director, E-Parisaraa Private Limited
- **RAMAN SHARMA**
  Managing Director, Exigo Recycling Pvt. Ltd
- **MR. PRANSHU SINGHAL**
  Founder & Director, Karo Sambhav
- **MR. ABHISHEKH RUNGTA**
  Head of Sourcing - Recycling Projects, Hindalco Industries Ltd
- **MR. ABHISHEK AGASHE**
  Co-Founder & CEO, ELIMA
- **MR. NITIN JAIN**
  Assi Sales Manager, Fornnax Technology Pvt. Ltd.
- **MR. ALN RAO**
  Head of Electronics Circularity, Recykal
- **PROF. BINEESHA P.**
  MRAI Advisor

SCALING NEW HEIGHTS OF POPULARITY

The ever-growing list of exhibitors at IMRC 2025 saw 195 stalls occupied by the who-is-who of world recycling industry. Of late, technology and machine manufactures are seen in increasing numbers. Thanks to the opening up of the industry across recyclable verticals, the expo attracted a stream of visitors throughout the three days. After hours engagements like Gala Night, MRAI Premier League and Award Nights have also provided engaging entertainment to the delegates and visitors.

SESSION END-OF-LIFE VEHICLE REVAMPING FOR GREEN SUSTAINABILITY

ELV RECYCLING POLICY TO PROTECT THE ENVIRONMENT

TAKEAWAYS

- Enforcement gaps and inconsistent incentives hinder the ELV policy implementation.
- Stricter enforcement and addressing the dominance of informal sector are crucial.
- Consumer reluctance to scrap vehicles limits policy effectiveness.
- Incentives and faster EPR deployment are the needs of the hour.
- Inconsistent demand and dominance of the informal sector challenges the RVSF setup.
- Digital ELV platforms enhance transparency and recycling efficiency.

The NITI Aayog workshop addressed End-of-Life Vehicle (ELV) recycling for green sustainability. Seven industry experts from government, private operators, OEMs, and related organizations participated in the discussion, titled "ELV Recycling Policy to Protect the Environment."

A representative from SIAM underscored the connection between India's "Viksit Bharat" vision and the increasing strain on resources due to a traditional linear consumption model. They emphasized that sustainable practices are crucial to mitigate environmental degradation and escalating waste generation. A representative from the Rajasthan State Pollution Control Board highlighted a key obstacle: public reluctance to retire vehicles. Even with government incentives, discarding or declaring vehicles as unusable remains a challenge, hindering the effectiveness of the ELV policy.

Industry representatives affirmed their commitment to sustainability and recycling within their business operations. They expressed optimism regarding the ongoing shift from the informal to the formal recycling sector, acknowledging the crucial role of government support in facilitating this transition. The anticipation of a more structured and efficient ecosystem was a recurring theme.

A representative from MMCM provided insights into the early stages of India's ELV recycling sector, noting the difficulties in procuring vehicles due to prevailing economic conditions. They reported that approximately 10,000 users have availed themselves of government incentives like Certificates of Deposit (CDs). MMCM emphasized its commitment to material traceability from ELVs, aligning with global best practices and promoting an open-loop system to enhance recycling efficiency.

The third day saw the inauguration of a **National Workshop on Circular Economy**, Shri Naresh Pal Gangwar, Additional Secretary, MoEFCC and Shri Amit Verma, Director, NITI Ayog, spoke about various government initiatives towards circular economy and its benefits. The workshop was focused on end-of-life vehicles and end-of-life tires. Both of them are very important, considering the number of vehicles which are increasing and the associated environmental, safety and other issues.

SPEAKERS

- **SHRI. VIJAI N.**
  Member Secretary, Rajasthan State Pollution Control Board (RSPCB)
- **MR. P. K. BANERJEE**
  Executive Director, Society of Indian Automobile Manufacturers (SIAM)
- **MR. KARTICK NAGPAL**
  President, Rosmerta Auto Recycling Private Limited
- **MR. JAGDISH PRASAD**
  Vice President, MTC Business Private Limited
- **MR. NITIN CHITKARA**
  CEO, MMCM
- **MR. SOURABH AGARWAL**
  Director, Ganganagar Vahan Udyog Pvt. Ltd.

AUTOMOBILE CIRCULARITY & CARBON CREDIT MARKET

The IMRC 2025, Jaipur hosted another crucial discussion on vehicle circularity, focusing on India's path toward a sustainable automotive future. Experts explored the interplay of decarbonization, circular economy principles, and policy initiatives.

Some of the key highlights during the discussions included India's upcoming carbon credit trading scheme (2026), projected to generate $15 billion. The auto sector, responsible for 14% of CO2 emissions, was identified as a prime area for intervention, with emphasis on reducing scope 3 emissions through green materials and improved vehicle design. The EU's ELV directive, mandating 25% recycled plastics in new vehicles, was acknowledged for its global influence. Further, challenges in Australia's hazardous waste management and the need for enhanced material aggregation were also shared as valuable lessons.

The expert panel emphasized integrating recycled materials into vehicle production, clarifying the roles of producers, users, and recyclers in establishing a true circular economy. Incentives for vehicle scrapping, including those offered under India's 2020 Vehicle Scrapping Policy, were deemed critical. The significant contribution of the transport sector, particularly passenger vehicles (13-14% of emissions), to CO2 levels was underscored, highlighting the urgency for action.

Challenges in ELV sourcing, including technological gaps and the presence of the informal sector, were highlighted, to which they felt the implementation of regulatory mechanisms and support for the informal sector could become potential solutions. The conference also acknowledged the historical context of circular economy practices in India and the importance of material recovery.

The need for awareness campaigns, policies, and inclusion of circularity concepts in educational curricula to foster green GDP was emphasized. The Australian perspective on vehicle circularity, highlighting the economic benefits of reuse, provided valuable insights. The conference concluded with the announcement of the Automotive Circularity Awards, recognizing sustainable initiatives in India's automotive sector.

TAKEAWAYS

- Informal ELV recycling causes inefficiencies and environmental risks.
- OEMs should design vehicles with recyclability in mind and use recycled materials.
- Incentives like tax benefits and scrappage discounts is essential to promote formal recycling.
- Financial incentives like COD trading and EPR can bridge viability gaps.
- Starting from 2026, carbon credit trading will benefit recyclers.
- Increased public awareness and regulation to integrate the informal into the formal system.
- Adoption of Euro 6 standards and EVs will help cut emissions in the transport sector which contributes 13-14% of India's CO_2 emissions.

SPEAKERS

- **SHRI. N. SUBRAMANYAM**
  Sci. E, HSM Div., MoEFCC
- **SHRI. VIVEK BHIMANWAR**
  IAS, Transport Commissioner, Maharashtra
- **MR. JAGDISH PRASAD**
  Vice President, MTC Business Pvt. Ltd. (moderator)
- **MR. E RAJIV**
  Executive Director, International Automobile Centre of Excellence (iACE)
- **MR. DAVID NOLAN**
  Executive Director, Auto Recyclers Association of Australia
- **MR. BRIAN NOPPE**
  General Manager, AD REM
- **MR. YASHODHAN RAMTEKE**
  Assistant Vice President, Carbon Business Unit, MMCM
- **MR. LAWRENCE PINTO**
  CEO, Orissa Steelmetaliks Pvt Ltd

SESSION EVOLUTION IN PLASTIC RECYCLING TO PROMOTE CIRCULARITY & SUSTAINABILITY

RECYCLING OF PLASTIC WASTE

TAKEAWAYS

- Recycled materials effectively replace virgin materials for both profitability and environmental benefit.
- Stringent regulatory standards and audits essential to guarantee recycled material quality.
- Plastic waste generated in cities often fails to reach recyclers in sufficient quantity or quality.
- The dry waste value chain is non-linear and dynamic, varying significantly for different materials.
- Increased waste collection is crucial for promoting recycling, business growth, and circular economy.
- As waste management is a state subject, ULBs need stringent local by-laws to disincentivize non-segregation.

SPEAKERS

- **SHRI BHARAT KUMAR SHARMA**
  Member Secretary, CPCB
- **MR. SANDEEP PATEL**
  Founder, NEPRA
- **MR. PRASHANT KHANDELWAL**
  Sr. VP, Ganesha Ecosphere Ltd.
- **MR. STEFAN BAROT**
  President-Chemical Division, Balrampur Chini Mills Ltd.
- **MR. VAIBHAV RATHI**
  Senior Technical Advisor, GIZ India
- **PRAFULLA SHINDE**
  Regional Marketing Manager, LyondellBasell
- **MS. EKTA NARAIN**
  Co-Founder & CBO, Reckyal
- **MR. ULHAS PARLIKAR**
  Director, MRAI

A key panel discussion on plastic recycling and waste management took center stage at the 12th IMRC 2025. Panelists converged on the necessity of a business-driven approach to the entire plastic recycling and waste management ecosystem. They underscored the importance of establishing robust infrastructure as the cornerstone of this model. Furthermore, cultivating trust among stakeholders and meticulously managing the value chain were identified as crucial elements for successful operations. The panel emphasized the need for profitability throughout the process, with Extended Producer Responsibility (EPR) achieving its goals by ensuring recycled materials can effectively substitute virgin materials.

A key issue raised was the lack of faith and traceability in the current system. Panelists called for regulatory authorities to implement stricter standards and audits, ensuring recycled materials meet virgin material quality in terms of contamination and chemical safety, especially for food packaging. Bio-based polymers were presented as a valuable addition, offering enhanced end-of-life options, improved recyclability, and functionalities like energy generation and potential replacement of fossil-based fertilizers.

A significant challenge in India is the disconnect between plastic waste generation in cities and its accessibility to recyclers. Insufficient quantity and poor quality, despite available technology, hinder effective recycling. The non-linear and dynamic nature of the dry waste value chain in cities was also discussed, with varying levels of recycling viability for different materials due to quantity and quality issues. Panellists stressed that adequate plastic waste collection is crucial for business growth, promoting a circular economy, and preventing waste accumulation in landfills.

The panel highlighted the need for stringent local by-laws by Urban Local Bodies (ULBs) to disincentivize non-segregation of waste, as waste management is a state subject. Finally, panelists emphasized the industry's responsibility to align with upcoming expectations, regulations, and standards set by the MoEFCC, CPCB, and BIS.

BEST PRACTICES & STANDARDS FOR PLASTIC WASTE RECYCLING

The 12th IMRC 2025 in Jaipur brought critical discussions on balancing the growing demand for plastics with sustainable practices. Key insights emphasized effective waste management, advanced recycling technologies, and the pivotal role of the informal sector.

By 2030, plastic demand is expected to surge, while production may decrease to meet international treaty standards. This calls for a transformative approach to managing existing plastic resources. The panelists stressed that plastics themselves are not the problem; mismanagement is. Addressing this involves reducing mismanaged plastics and leakages.

Highlighted strategies include recycling, refurbishing, and extending product lifecycles. Notably, waste contributes only 4% to global emissions, underlining the importance of targeted interventions in plastic management. With diverse applications in packaging (42%), construction (14%), and industrial goods (13%), plastics present both challenges and opportunities for innovation.

A notable event highlight was the pilot circular economy hub in Kolhapur, supported by Siddhagiri Mutt. This first-of-its-kind rural initiative aims for zero waste in 20 villages, involving local communities and fostering start-ups in the recycling sector. The hub promotes innovation and creates business opportunities in waste management.

The discussion also underscored the importance of standardization in recycling processes. Bureau of Indian Standards (BIS) representatives discussed key standards for plastic recycling, such as IS 14534 for recovery options, IS 14535 for polymer identification, and standards for recycled PET and PE/PP mixtures.

Technological advancements in sorting and recycling brought into discussion, including machine vision-based systems that identify materials. These systems promise to revolutionize material recovery facilities. Another innovation involves creating hardwood replacements from mixed plastic waste, addressing both plastic waste and deforestation.

Finally, the panel recognized the vital role of the informal sector in India's recycling landscape. Integrating and empowering waste pickers through education, training, and fair market prices is crucial for a transition to sustainable plastic management.

TAKEAWAYS

- **Highlighted standards: IS 14534 (recovery options), IS 14535 (polymer identification), IS 16630 (recycled PET), IS 16591 (PE/PP mixtures), and IS 18694 (PE/PP testing).**
- **A pilot project in Kolhapur aims for zero waste in 20 villages and serves as an incubation center for recycling startups, with potential for regional replication.**
- **Develop more recycling systems and wood alternatives to improve plastic recycling efficiency and quality.**
- **Integrating waste pickers into the formal recycling sector will ensure social inclusion and enhance waste management.**
- **Improving working conditions and livelihoods of waste pickers is essential.**
- **Need for active collaboration between industry stakeholders.**

SPEAKERS

- **SHRI. SHIVAM DWIVEDI**
  Member Secretary, PCD12, BIS
- **PROF. (DR.) S K NAYAK**
  (Former Director General of CIPET) Vice-Chancellor, Ravenshaw University
- **MR. SANDIP SINGH**
  CEO, Ishitva Robotic Systems
- **MR. SHARANG AMBADKAR**
  Managing Partner, FeelGood Econurture LLP
- **MR. VISHAL MEHTA**
  Director, Sustainable Materials Program, STEER WORLD
- **PROF. BINEESHA P.**
  MRAI Advisor
- **MR. PRABHJOT SODHI**
  MRAI Advisor

SESSION REINVENTING THE END-OF-LIFE TYRE RECYCLING INDUSTRY

POLICY FRAMEWORK FOR TYRE RECYCLING

TAKEAWAYS

- Sustainable development requires a shift from a linear to a circular economy, emphasizing resource efficiency, waste reduction, and responsible recycling.
- Informal recycling sector must be formalized to ensure fair wages, safer working conditions, and better efficiency.
- A robust recycling industry can reduce reliance on imported raw materials, drive innovation, and create employment opportunities.
- Policies should encourage circular economy initiatives through tax incentives and government procurement mandates for recycled materials.
- Policy executions at the ground level faces multiple hurdles. States play a crucial role in overcoming these challenges.

SPEAKERS

- **SHRI. AMIT VERMA**
  Director, NITI AAYOG
- **SHRI. ANAND KUMAR,**
  Director and Divisional Head, Waste Management – III Division, CPCB
- **SMT. VINITA VAID SINGAL,**
  Principal Secretary – Environment, Govt. of Maharashtra
- **MR. RAHUL SHRINGARPURE**
  Director, Indo-Green Enviro Private Limited
- **MR. RAHUL GOYAL**
  MD, Waste 2 Energy Solutions Private Limited
- **MR. KUSH GIRAMKAR**
  President- Operations, Procurement & Projects, GRP Limited.
- **MR. ANURUP ARORA**
  Senior Vice President - Business Development & CPG, Tinna Rubber & Infrastructure Ltd
- **DR. RINKEL JINDAL**
  Head-Global Regulatory Compliance, Apollo Tyres Limited
- **MR. GAURAV NANDA**
  Chief Strategy Officer, Epsilon Carbon Private Limited

The discussion on the emerging sector saw the panel address ing the complex challenges and opportunities facing the sector. Discussions were centered on the critical need for a paradigm shift from traditional linear models to a circular economy for tyres, emphasizing the interconnectedness of policy, technology, and market dynamics. Panelists underscored the importance of moving beyond short-term regulatory fixes and developing a comprehensive, long-term vision for sustainable tire management aligned with national development goals.

A recurring theme was the vital role of policy in driving this transition. Participants stressed the need for clear, consistent regulations that incentivize recycling, promote innovation, and ensure a level playing field for all stakeholders.

The discussion highlighted the importance of a collaborative approach to policymaking, involving not only government agencies but also industry players, recyclers, and research institutions. The crucial role of state governments in policy implementation was emphasized, with a focus on understanding and addressing the specific challenges they face on the ground. The panel also acknowledged the need for policies that address the social dimensions of tyre recycling, particularly the formalization of the informal sector and the protection of workers' rights.

Beyond policy, the panel explored the technological and market aspects of reinventing the tire recycling industry. Participants discussed the need for continued innovation in recycling technologies to improve efficiency, reduce costs, and expand the range of applications for recycled materials.

The ongoing evolution of the EPR framework for waste tyres was a central point of discussion, including the mechanics of EPR certificate generation, trading, and compliance. The potential of an electronic trading platform to enhance market transparency and efficiency was also explored.

At the end, the industry's shared vision was of a future where end-of-life tyres are no longer viewed as waste but as valuable resource, contributing to both environmental sustainability and economic growth.

ROLE OF R&D IN TYRE RECYCLING

The panel on R&D on tyre recycling showcased both progress and hurdles. Discussions were centered on the evolution and market integration of tire pyrolysis technology (TPO).

A key takeaway was the necessity for economies of scale, exemplified by a facility processing 180,000 tons of tires annually. Regulatory landscapes, varying significantly between regions like the UK (with TPO priced at $1,000/ton) and India (targeting 40% recycled content by 2030), play a crucial role.

Indian manufacturers are responding with innovative, customized, high-capacity equipment and substantial R&D investments, particularly in energy efficiency and material recovery.

However, the Indian tire recycling industry faces significant challenges, including fragmentation, a lack of standardized practices, and a shortage of skilled labor. Proposed solutions include mandatory implementation of BIS standards and government support, potentially through carbon credits for transporters. The panel also explored the vital role of retreading, highlighting the need to address the unorganized sector's challenges through standardized operating procedures and training.

Further, the experts advised incorporating recycled materials like SBR and RCP into tire manufacturing to enhance the reliability of tyres while ensuring the expanded use of recycled materials.

They further pointed out the need to look at the existing regulatory framework in this matter and identify ways to address the challenges and hurdles that the industry is facing in terms of maintaining its performance standards.

The importance of government policies, industry collaboration, and training to support both the retreading industry and the broader adoption of recycled materials was a recurring theme. The potential for carbon credits and the critical need for standardization across the sector were also emphasized.

Overall, the panel provided a comprehensive overview of the current state and future trajectory of tire recycling, underscoring the importance of innovation, collaboration, and supportive policies to drive sustainable growth.

TAKEAWAYS

- Chinese overcapacity and cheap imports are challenging Indian recyclers' competitiveness.
- Confusion over taxation, compliance, and licensing highlight the need for a structured regulatory framework.
- A significant portion of recycling remains in the unorganized sector, requiring incentives for formalization.
- Global comparisons highlighted trade barriers affecting India's recycling industry.
- Need to stabilize recycling process to ensure consistent quality output.
- Need to work with Ministry of Petroleum and Natural Gas to recognize pyrolysis oil as a biofuel and enable its purchase at higher prices.
- Explore incentivising tyre companies to use recovered materials.

SPEAKERS

- **MR. KUSH GIRAMKAR**
  President- Operations, Procurement & Projects, GRP Limited
- **MR. RAHUL SHRINGARPURE**
  Director, Indo-Green Enviro Private Limited
- **MR. VISHESH AGARWAL**
  Chairman, AIRTRA
- **MR. VIJAY SHRINIVAS**
  Director, Tyre Retreading Education Association (TREA)
- **SHRI. DR. P. KRISHNAIAH**
  Chairman, APPCB, Andhra Pradesh
- **MR. ANKIT KALOLA**
  Global Head - Sales & Operations, Fornnax Technology Pvt. Ltd.
- **MR. FRANKLIN RAJ,**
  Pyrolysis Business Analyst, Robert Weibold GmbH
- **MR. NITEESH K SHUKLA**
  Director, Indian Tyre Technical Advisory Committee (ITTAC)
- **MR. VIJAY SHEKHAWAT**
  GM & Regional Lead, ARISE IIP India Pvt. Ltd.

IN SYNC WITH THE TIMES

It is a foregone conclusion that female perspective and participation are crucial for economic prosperity of the society. Taking cognisance of this fact, MRAI has been trying to have representation of women in the association.

Accordingly, MRAI announced the establishment of its 'Women's Strategic Unit' on the 8th March 2024. The first get-together of the 'Women in Recycling' was launched during the 12th IMRC 2025, Jaipur, on the 29th January 2025.

By all accounts, this was a landmark event, which witnessed 35% of the women participants registered for the conference, assembling for the meet, to discuss and strategize its activities. The meeting was steered by Prof. Bineesha Payattati, Advisor, MRAI India, Ms. Robin Wiener, ReMA, USA, and Ms.Susie Burrage, BIR, UK.

The event also got an additional momentum when the Mayor of Jaipur Dr. Somya Gurjar, participated as a Guest of honour, along with the immense support of MRAI board.

"The inaugural MRAI Women in Recycling meeting in Jaipur truly made my heart sing! Being surrounded by 30 incredible women, all passionate about their roles in the recycling industry was profoundly inspiring. The energy in the room was infectious," observed Ms Susie.

Ms Payattati reiterated that the intention was not to carve out an exclusive women's club - instead, we are fostering a vibrant, inclusive environment where everyone can participate. "Men do and will play a vital role in our journey, and this was demonstrated by the presence of Sanjay Mehta and his senior team members who pledged their unwavering support to the advancement of women in the Indian recycling industry. "The pledge of producing training programmes for women in recycling created excitement in the room and truly filled me with hope," added the BIR President.

At the meeting, it was decided that MRAI would undertake the following three strategic approaches for increasing women's participation in the Recycling Sector:

1. Undertake specialized on-the-job skill development, exposure programmes, training, and knowledge development among the women workforce, including the C-Suite women in this sector
2. Enumerate the women directors in the recycling sector by increasing their visibility
3. Support in executing the Government programmes to help increase the women's workforce
4. Support the MRAI member industries in promoting women's workforce
5. Collaborate with higher education institutions in the country to encourage students to take up recycling as a career option and also as an entrepreneurship opportunity

MATERIAL RECYCLING ASSOCIATION OF INDIA
Voice of the Indian Recycling Industry

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Make it a Habit

GLOBAL RECYCLER OF THE YEAR

GRAVITA INDIA LIMITED

THE PATH BREAKER

Gravita India, the leading recycling company operating across 5 business verticals in over 70 countries and with 12 manufacturing plants worldwide walked away with the much coveted recognition as the Global Recycler of the Year at IMRC 2025. Rajat Agrawal, Chairman & Managing Director and Naveen Sharma, Executive Director of the Company share the moment with MRAI team members

LIFE TIME ACHIEVEMENT AWARDS

Mr. VIJAY SHARDA, Founder and Chairman and Managing Director of Shabro Metallic Private Limited, is a veteran the steel sector of over five decades.

Mr. G S AGARWALA, the owner and the chairman of CMR Green Group of companies, has made significant contributions, beyond business achievements.

THE PATH MAKERS

Both the veterams are widely respected for their integrity, innovation and passion, inspiring generations with their knowledge, values and contributions. Both of them embody humility and service, and are actively engaged in philanthropic activities. While Mr Sharda received the award personally from Mr. Vinod Kumar Tripathi of Steel Ministry, Mr Mohan Agarwal and his sons received the trophy on behalf of Mr Agarwala.

Awards for Excellence in Sustainability and Recycling Innovation

The following steel companies won the accolades

WINNERS ALL

1. ARS STEELS & ALLOY INTERNATIONAL PVT. LTD.
2. JAIDEEP METALLICS & ALLOYS PVT. LTD.
3. ORISSA STEELMETALIKS PVT. LTD.
4. SAI BANDHAN INFINIUM PVT. LTD.
5. SHREEYAM POWER AND STEEL INDUSTRIES LIMITED
6. SHYAM SEL AND POWER LTD.
7. UTKARSH ISPAT LLP
8. RATHI STEEL AND METAL PVT. LTD.
9. FULETRA STEEL LLP
10. GERMAN GREEN STEEL AND POWER LTD.
11. R. L. STEELS & ENERGY LTD.
12. WELSPUN CORP LIMITED.
13. MONO STEEL INDIA LTD.
14. GUARDIAN CASTINGS PVT. LTD.
15. KEMO STEEL INDUSTRIES PVT LTD

MMCM & MRAI
PRESENT

1ST Automotive Circularity Awards 2024

From Left to Right: Mr Kartik Nagpal (Rosmerta) ● Mr Kailash Sharma (Transport Dept) ● Mr Nitin Chitkara (MMCM) ● Mr Sai Giridhar (Saisha Motors) ● Mr Amit Verma (Niti Aayog) ● Mr Jagdish Prasad (MTC) ● Mr Sourabh Agarwal (Ganagnagar Vahan)

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