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CII Circular Economy Conference 2025

From Vision to Action: India's Circular Economy Momentum

The **CII Circular Economy Conference 2025 – "Vision to Action"** convened **international leaders**, **policymakers**, and **industry innovators** to spotlight India's accelerating transition toward **circular economy** practices. Discussions underscored the enormous **economic potential** of circularity – framed as a **trillion-dollar opportunity** – and the urgency created by global **material inefficiencies**, with **only 6.9 %** of materials currently being **reused or recycled**. The conference opened with strong **policy signals**, including India's **Extended Producer Responsibility (EPR)** framework and the launch of CII's report on **Circular Economy Practice in India**, emphasizing **upstream redesign**, **logistics transformation**, and **sustainable production**.

High-level dialogues with representatives from **Finland**, **Sweden**, **GIZ**, and **SITRA** reinforced the importance of **cross-border partnerships**, **education integration**, and **ecosystem cooperation**. A recurring theme was the required **mindset shift** from linear to **circular models**, supported by **product-as-a-service strategies**, advanced **e-procurement**, and **digital tools** such as **Digital Product Passports (DPPs)** – an area where India is already making progress in the **textile sector**.

Industry presentations showcased practical **use cases** demonstrating circularity in action – from **steel scrap digitalization** to **remanufacturing**, **recycling technologies**, and **sustainable packaging innovations**. The **financial sector** highlighted the need for **harmonized guidelines** to **de-risk investments** and strengthen **material-flow transparency**.

Together, these insights illustrate that circular economy adoption is becoming a **strategic necessity** – a driver of **competitiveness**, **resource resilience**, and **sustainable industrial growth** as India advances its clean-energy future.

Opening: Setting the Stage for India's Circular Shift

The CII Circular Economy Conference 2025 "Vision to Action" was organised by the CII – Centre of Excellence for Sustainable Development[1] that attracted high-level international guests that could learn about the latest innovations in the field of circular economy in India.

The implementation of circular economy practices is a trillion dollar business. In Europe alone, there is an expected benefit of €1.8 trillion generated annually until 2030.[2] Global demand for such practices is enormous, given the fact that only 6.9 % of materials are recycled/reused[3]. The Circularity Gap Report 2025[3] furthermore highlights the need for a holistic view and a strong

[1] CII – Centre of Excellence for Sustainable Development [accessed 30 Nov 2025]
[2] Growth within: A circular economy vision for a competitive Europe [accessed 30 Nov 2025]
[3] Circularity Gap Report 2025 [accessed 30 Nov 2025]

interlink between upstream and downstream activity.

Finland is one of the global forerunners in circular economy practice and was the first nation to establish a Circular Economy Roadmap in 2016[4] with the aim to be carbon neutral by 2035[5,6]. In 2017, Finland inaugurated the World Circular Economy Forum[7] which has since then been hosted by many countries and will welcome delegates in India in October 2026. As a special guest, Kimmo Lähdevirta (Ambassador of Finland to India) highlighted Finland's strength in technology and innovative practice, and the close ties with India.

India has a strong policy framework in place with respect to Extended Producer Responsibility (EPR)[8] incorporating a variety of industrial sectors. From EU side the EU Circular Economy Action Plan[9] is another strong policy framework to mention. A special moment at the opening ceremony was the publication of CIIs "Circular Economy Practice in India" report in which the need for changes in upstream production practices, means of logistics, and product design are highlighted.

Snajiv, a member of the Ministry of Commerce and Industry, Government of India, reminded in his welcome address that we have to keep in mind to leave something for the next generation, i.e. that besides all consumerism we have to sacrifice a part of what we enjoy and produce in a sustainable manner in order to enable suitable conditions for the generations to come. Problems need to be identified clearly and subsequently be approached step by step. For this purpose, he highlighted the "Startup India" platform[10], where ideas or problem statements could be published to find people for commercialisation.

Key Takeaways:

- Circularity presents a massive economic opportunity with urgent global material gaps.
- India's EPR and CII's report set strong policy foundations.
- Upstream redesign, logistics, and product design are essential levers.
- Government stresses sustainability for future generations.

We Recommend:

- ▷ Prioritise upstream improvements and sustainable production.
- ▷ Use platforms like *Startup India* to solve industry challenges step-by-step.

Collaboration as Catalyst: Partnerships Powering Circular Innovation

A high-level panel with representatives from the Swedish Embassy to India, the Finnish Embassy to India, SITRA[11], and GIZ[12] discussed about the importance of partnerships.

[4] Finnish road map to a circular economy 2016-2025 [accessed 30 Nov 2025]
[5] Finland's climate action strategy [accessed 30 Nov 2025]
[6] Carbon Neutral Finland 2035 [accessed 30 Nov 2025]
[7] World Circular Economy Forum [accessed 30 Nov 2025]
[8] Centralized EPR Portal for Plastic Packaging [accessed 30 Nov 2025]
[9] EU circular economy action plan [accessed 30 Nov 2025]
[10] Startup India platfrom [accessed 30 Nov 2025]
[11] SITRA [accessed 30 Nov 2025]
[12] Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH [accessed 30 Nov 2025]

India attracts great interest from several countries. Sweden and India connect a long lasting partnership which was fostered by signing an agreement avoiding double taxation already in 1958 between the two countries[13], facilitating business operations. The interest of Swedish companies to start economic operations in India is highly promoted.[14] Also Finland has a sustainable partnership with India in place, with the first signing of a Memorandum of Understanding (MoU) in 2020 and a second one in 2021[15]. Such partnerships facilitate knowledge creation and drive innovation. A valuable aspect is the mindset to produce for longevity (naming the good old Nokia phones as an example by the Finnish representative). Repair and service should be more important than manufacturing, thus following the aim to minimise resources overall.

In that sense, a mindset shift is required on many levels of the value creation chain as well as on consumer side, going from linear to circular. Latest and most efficient technologies need to be implemented for use. Changing from ownership to product-as-a-service models greatly benefit from a more efficient use of resources. Customers need to be supported in appropriate e-procurement practices, especially governments (e.g. introduced in Sweden[16]), often being the largest single buyer on the market. Finland has established a one-year circular economy training program[17] and has incorporated circular economy contents in their education system from kindergarten to university [18]. The overarching theme is to induce and foster cooperation between companies, society, and academia.

The financing sector is another key stakeholder, their institutions (like the World Bank, the European Investment Bank, other regional investment banks) and whole nations and regions (like ASEAN, Africa, Latin America). The people who are evaluating the projects and allocate financing to them need to have a solid understanding of the circular economy principles behind and how to measure them. This partnership is crucial since, products fail often because of the business aspect (the technology is ready for market).

Key Takeaways:

- Indo-Nordic partnerships are powerful engines for circular innovation.
- Mindset shift toward longevity, repair, and service is essential.
- Education systems embedding circularity drive long-term change.
- Financing institutions need clear circular metrics.

We Recommend:

- ▷ Strengthen international collaboration for knowledge and technology exchange.
- ▷ Circularity must become a core business strategy, supported by education, cooperation, and clearer value realization.

Materials are vital topic in circular economy. Critical raw material alliances have been evolving including political announcements. There is, however, still a gap of $180 bn to $270 bn in financing until 2030[19], posing a risk for future materials security. Traceability of materials is a central topic to understand and subsequently to be put into practice, especially for the movement of secondary material, which is still diffuse and needs to be addressed by policy makers. Digital Product Passports (DPPs) are a tool that can beneficially

[13] Double Taxation Avoidance Agreement (DTAA) [accessed 30 Nov 2025]
[14] Business Sweden - UNLEASHING THE POWER OF INDIA [accessed 30 Nov 2025]
[15] India-Finland external affairs relationships [accessed 30 Nov 2025]
[16] Government offices Sweden - Public procurement [accessed 30 Nov 2025]
[17] Finland's National Circular Design Programme [accessed 30 Nov 2025]
[18] Circular economy teaching for all levels of education [accessed 30 Nov 2025]
[19] UN Trade & Development: Critical minerals boom: [accessed 30 Nov 2025]

be deployed for such matter, for which awareness needs to be created and good support for their introduction, especially for SMEs, is needed. India is currently active in the implementation of DPPs for the textile sector.

In general, Carbon as a strategy is an established model, however there is a need for Circularity as a strategy for companies. Circular economy is about education, cooperation, and inclusion, about the behaviour of end-users and customers. Business models need to be created to educate companies how to leverage EPR-credits. So far, it is still unclear how companies can benefit from circular economy actions. A practitioners report was published by GIZ, summarising guidelines and insights to help financing circular economy practices.[20]

Use Cases: Circularity Demonstrated Across India's Industrial Landscape

Companies across various sectors presented their innovations of implemented circular economy principles. About 80 % of a products impact is decided by its design [21], requiring a dedicated focus on the product creation stage.

The motivation was largely triggered with the signing of the Paris Agreement when a global consensus was reached to commit to the 1.5 degree target[22], and the adoption of regulations in significant economic regions like the EU taxonomy[23], and the EU Battery regulation[24]. Subsequently, the look into own scope emissions and commitment to individual net-zero targets, brought techno-economic logic to take over and realise the benefits of overall cost reduction (especially in energy use), less use of virgin material, the extension of product lifetime, and the alignment of material sourcing risks with resource security.

Tata Steel introduced its innovative scrap collection. Steel accounts for about 3.8 % of global GDP, generating 8 % of global green-house gas (GHG) emissions[25], which are 4.26 Gt of 53.2 Gt-CO_2 per year [26]. The production of steel emits about 2.3 t-CO_2/t-steel. The infinite ability to recycle steel is a huge advantage. Scrap collection of steel in India has just started (unlike other regions of the world). The supply chain for scrap is highly fragmented and partly not formalised. Tata's introduction of an app[27] brought a significant change into this part of the supply chain. The app is used by various stakeholders and formalised the material supply chain from a certain entry point. The ROI was not given as for common industrial investments, yet the driver was to build an ecosystem, from which a long-term benefit was assumed.

For Siemens as a technology provider the supply of raw materials is a prominent topic. There is a serious global copper shortage expected by 2040[28]. Thus solutions need to be fundamental. Siemens's fundamental principles are eliminating waste, preserving the value of the product, and closing the loop at all stages. Out of those, 14 KPIs for circularity were extracted, which incorporate resource optimisation, valorising waste, and monetising the extended product life. About 80 % of the sustainability of a product is set at its design/creation. The incorporation of recy-

[20] Financing Circular Economy – Insights for Practitioners [accessed 30 Nov 2025]
[21] Ellen MacArthur Foundation - An introduction to circular design [accessed 30 Nov 2025]
[22] Paris Agreement 2015 [accessed 30 Nov 2025]
[23] EU taxonomy for sustainable activities [accessed 30 Nov 2025]
[24] EU Battery Regulation ((EU) 2023/1542) [accessed 30 Nov 2025]
[25] United Nations Industrial Development Organisation [accessed 30 Nov 2025]
[26] GHG emissions of all world countries [accessed 30 Nov 2025]
[27] Tata Steel launches FerroHaat^{TM} App for sourcing steel scrap [accessed 30 Nov 2025]
[28] Global Critical Minerals Outlook 2025 [accessed 30 Nov 2025]

cled materials can already reduce a product's carbon footprint by 30 %. One use case presented dealt with the use of SF_6 in circuit breakers. The environmental impact of SF_6 is enormous (1 kg is equivalent to 23.5 t of CO_2[29]), thus it is a societal responsibility to close the loop for this substance, preventing any leakage into the environment. This requires a multi-stakeholder approach and ecosystem partners that can play at par. OEMs have a responsibility to support the development of the ecosystem.

Fellow German competitor Bosch presented to be carbon neutral based on scope 1 and 2 since 2020 [30].

Key Takeaways:

- Design decisions determine 80% of a product's impact.
- Tata Steel digitalised a fragmented scrap ecosystem. Siemens created 14 circularity KPIs.
- Closing the loop on SF_6 is critical due to extreme CO_2 impact.
- Companies like Bosch and Apollo show strong net-zero commitments.

We Recommend:

- ▷ Embed circularity at the design stage.
- ▷ Digitalise and formalise secondary-material flows.
- ▷ Build ecosystems for safe handling of high-impact materials.

Tyres are one of the products for which the incorporation of recycled material poses a significant challenge. Apollo Tyres has a strategy to be net-zero by 2050[31]. Their approach is to look into the life cycle, the use phase, and end-of-life of their product. Emissions in the value chain are critical for which a highly potent ecosystem is required.

As a Service: Business Model Innovation for Circular Value Creation

The representatives from Volvo (heavy machinery) advocated for the application of Science Based Targets initiative[32]. New build machinery already incorporates 80 – 95 % of recyclable material. Additionally, certified re-manufacturing, amounting to about 15 % of the cost of a new machinery can extend the life time of their products up to 1.8 times of the initial. In their philosophy the current introduction of equipment-as-a-service might develop into outcome-as-a-service. Volvo is very active in the field of implementing circular economy principles and integrating latest communication technology. The company is committed to be net-zero based on their value chain by 2040[33].

Washing is characterised mainly due to its high water usage per wash. Lindströms is a company offering industrial scale washing service, which reduces about 60 % of freshwater use per wash (14 l/wash down to 7 l/wash (including 1.5 l/wash recycling)) [34]. The perspective changed to see circularity as an opportunity and brought about renting models (Textile-as-a-Service) to preserve the quality of textiles (through professional washing), improved safety and textile lifetime, and a reduction in overall lifetime cost.[35]

Hewlett Packard are targeting 75 % circularity in packaging by 2030[36] having currently achieved 43 %. The incorporation of various materials from other waste streams like cooking oil and coffee

[29] Sulfur Hexafluoride (SF6): The Most Potent Greenhouse Gas [accessed 30 Nov 2025]
[30] Climate neutrality: net zero carbon emissions at Bosch since 2020 [accessed 30 Nov 2025]
[31] Apollo Tyres Ltd. – Sustainability Report 2024-25 [accessed 30 Nov 2025]
[32] Science Based Targets initiative [accessed 30 Nov 2025]
[33] Volvo – The Road to Net Zero [accessed 30 Nov 2025]
[34] Lindström Reduce Fresh Water Usage in India [accessed 30 Nov 2025]
[35] Improving sustainability performance at Lindström's Luumäki plant [accessed 30 Nov 2025]
[36] HP Sustainability and Compliance Center [accessed 30 Nov 2025]

powder supported this achievement. A change in mindset from a product-centric approach (computer and printer) to an outcome-as-a-service approach (computing and printing).

Key Takeaways:

- Remanufacturing extends machinery life up to 1.8x.
- Models are shifting from product to outcome-as-a-service.
- Industrial washing halves water consumption.
- Circular packaging is scaling with recycled content integration.

We Recommend:

- ▷ Expand service-based models that extend product life.
- ▷ Promote remanufacturing, refurbishment, and industrial reuse systems.

Overarching principles that the companies follow are: extending the product life, strengthening customer trust, partnering with SMEs, measuring environmental and economic impact, building and educating the supply chain, leveraging digital tools, prioritising raw material security, creating a market for circularity, optimising reverse logistics, policy advocacy, increasing recycle content, looking into 2^{nd} life applications, and incorporating low-carbon material. Simultaneously government incentives and policy frameworks are required to support R&D, scale up, and customer demand. Companies need strong, predictable, and binding regulations. It is important to put an ecosystem in place to allow for cross-sector application and partnerships, for which foundations can play a valuable role.

Financial Sector: Aligning Capital with Circular Economy Outcomes

The International Finance Corporation (IFC), the commercial arm of the World Bank[37], with a strong portfolio in circular economy projects. Told about the perspective from the financial sector, which focusses a lot on de-risking of investments. The ICF published "Harmonized Circular Economy Finance Guidelines"[38], that support investors understanding investment volumes, criteria, and more to evaluate their engagement. It is considered relatively easy to label a project as 'green,' yet far more difficult to label it as "circular". Guidelines should be interoperable (e.g. with the EU taxonomy for sustainable activities[23]), sector agnostic and focussing on materials to facilitate cross-border finance. Investors need to be capable of drawing credit lines, and labelling certain parts of a project as "circular" or "energy efficiency".

The flow of materials can be a significant challenge, especially in the incorporation of scrap material which might to a significant part come through informal channels, which makes investment in such streams difficult. Cross-sectoral databases, such as the plastics investment tracker circularity[39], significantly facilitate the de-risking and ability for investments. A more general Circularity Investment tracker is scheduled for release in 2026.

For investments it is important to look into the supply chain (e.g. for batteries) and into the carbon footprint of the materials (e.g. green steel). The implementation of circular economy principles need to be understood by those who make the decisions. It is about speaking the language their, i.e. turning intangibles into quanitities, such as in cost of scrap and Return-Of-Invest (ROI), focussing on financial metrics, de-jargonized language, and quick wins.

[37] International Finance Corporation [accessed 30 Nov 2025]
[38] Harmonized Circular Economy Finance Guidelines [accessed 30 Nov 2025]
[39] Plastics Circularity Investment Tracker [accessed 30 Nov 2025]

Key Takeaways:

- Financing circularity requires de-risking clarity and aligned standards.
- Circular projects are harder to classify than "green" ones.
- Informal scrap channels limit investment.
- Databases improve material-flow transparency.

We Recommend:

- ▷ Strengthen traceability to unlock investment.
- ▷ Align with harmonized circular finance guidelines.
- ▷ Formalise scrap flows and frame circularity in financial terms.

From Dialogue to Deployment: The Call for Coordinated Circular Action

The **CII Circular Economy Conference 2025** highlighted a decisive shift: circularity is emerging as a **strategic foundation** for India's economic and environmental future. With only **6.9 %** of materials reused globally and increasing pressure on resource security, the insights shared throughout the event underscored the urgency for **industry-wide transformation**. Strong policy frameworks such as **EPR**, evolving global partnerships, and practical use cases – from **scrap digitalization** to **remanufacturing** and **sustainable product design** – demonstrated that circular models are both achievable and economically compelling.

The financial sector emphasized the need for **harmonized guidelines**, **traceability**, and **de-risked investments**, while speakers consistently reinforced the importance of **education, ecosystem collaboration**, and a **mindset shift** from linear consumption to long-term value preservation.

The direction is clear: India's circular transition requires **coordinated action, technology adoption**, and **scalable models** that unite government, industry, and society.

The time to accelerate circularity is now – because the future will belong to the economies that waste least and innovate most.

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