

# CIRCULAR ECONOMY:

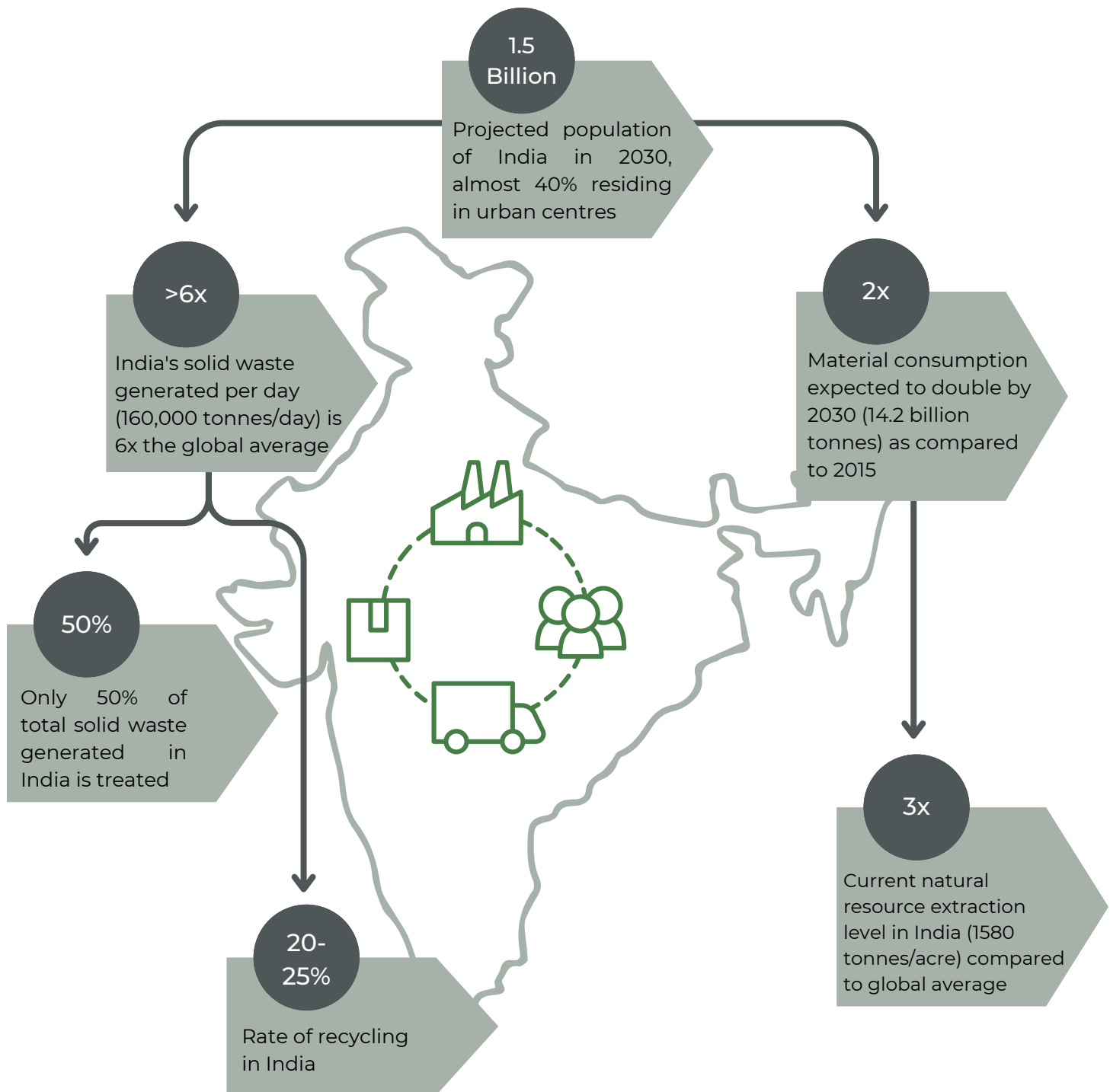
## Value Proposition and Startup Landscape in India

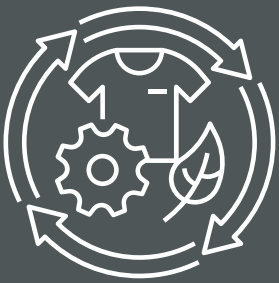




# India in Numbers

Close to 30% of waste generated in India is unaccounted for (neither treated nor ended up landfill). This poses a great challenge in the wake of high resource extraction levels and increasing material consumption





# CE's Value Proposition for India

## Linear vs. Circular Economy

Traditionally linear model of value creation



Circular Economy (CE) advocates a closed-loop production model where resources are reused, allowing for more value generation.

### Did you know?

*India, accounting for 18% of global population but only 2.4% of landmass, 2% forest and 4% of freshwater resources, faces severe resource constraints.*

It will **require 2.5 times more natural resources** to meet its demand by 2030.



### Transitioning to CE in India

**can create economic, environmental and social value**

- Existing CE market opportunity of \$45 billion (~1% of GDP)
- Over \$600 billion annual value creation opportunity in 2050 (~3% of projected GDP in 2050)
- Potential for 44% reduction in projected GHG emissions in 2050










# CE Startup Landscape in India

## Did you know?

Despite being a high growth potential sector there are only 200 startups (estimated) building products / solutions to promote and facilitate adoption of circular economy in India.

## Indian startups are predominantly building three kinds of solutions

Circular economy startups in India are predominantly offering the following services using SaaS based platforms and advance technologies such as biotechnology, robotics, etc.

Solution	Description	Startups
<b>Recovery &amp; Recycling</b>	Capture value from the waste. (end-of-life products, waste products, by-products etc.)	  
<b>Circular Supply Chain</b>	Fully renewable, recyclable, or biodegradable materials that can be used across lifecycles.	  
<b>Product Life Extension</b>	Extend working lifecycle of products that might be broken, out of fashion or no longer needed by way of repairing, upgrading, and reselling.	

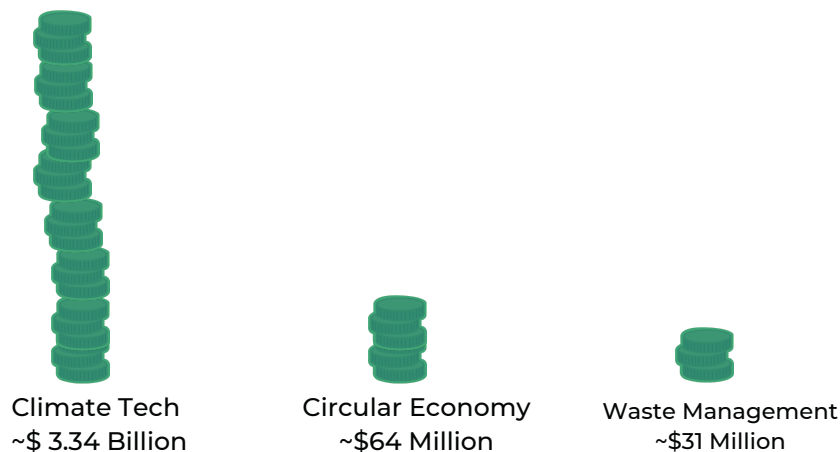


# Investments in CE Startups

## Investments in CE Startups are higher than waste management but a tiny fraction in the overall climate tech sector

Between 2011 - 2022, circular economy startups raised only **2x** the funding as compared to startups in the allied waste management sector. The total funding in the large climate sector is over 52 times (about \$3.34 Bn).

Further, while most of the funding in waste management remains concentrated at early stage (seed and series A), circular economy startups have gone on to raise growth stage funding (series B and series C), indicating greater investor confidence in these solutions.



### Prominent Investors in the Circular Economy Sector





# Opportunities for Startups

01

## Scope for Increased Interventions in Product Life Extension based Solutions

- Currently interventions are limited to fashion, consumer electronics and automobile segments
- Over \$7 billion used consumer goods market in the country

02

## Nanotechnology for Material Development

- Nanotechnology based products are proven to offer increased durability and energy efficiency
- This extends product life cycle, reduces overall material consumption and enhances sustainability

03

## Role of Biotechnology in Circularity

- Bio-fuels and biodegradable materials offer more sustainable alternatives compared with conventional fossil fuel based products

04

## Other Emerging Models

- Product as a service: Manufacturers bear the total cost of product ownership, offering it to customers as a service. The customers become users rather than product owners
- Sharing as a service: Connecting two or more parties to drive up the net asset utilization through co-access or co-utilization



# References

1. Anand, A., & Kaushal, P. (2022, August 29). India's millions consume more than the country can sustain. Galen Centre for Health and Social Policy. Retrieved from <https://codeblue.galencentre.org/2022/08/29/indias-millions-consume-more-than-the-country-can-sustain/>
2. Bhattacharyya, R. (2020, August 18). 40% of Indian population will live in urban centres by 2030: Hardeep Singh Puri. Livemint. Retrieved from <https://www.livemint.com/news/india/40-of-indian-population-will-live-in-urban-centres-by-2030-hardeep-singh-puri-11597743030787.html>
3. Blume Ventures. (2023, May 24). Closing the loop: Unleashing the potential of the circular economy for sustainable transformation. Retrieved from <https://blume.vc/commentaries/closing-the-loop-unleashing-the-potential-of-the-circular-economy-for-sustainable-transformation>
4. Central Pollution Control Board. (2021). Municipal solid waste management annual report 2020-21. Retrieved from [https://cpcb.nic.in/uploads/MSW/MSW\\_AnnualReport\\_2020-21.pdf](https://cpcb.nic.in/uploads/MSW/MSW_AnnualReport_2020-21.pdf)
5. CEPT University. (2022). Transitioning Indian cities into circular economy (Spring 2022) [Course Material]. Retrieved from <https://portfolio.cept.ac.in/fm/drps-um4050-spring-2022/transitioning-indian-cities-into-circular-economy-spring-2022-pum20034>
6. Ellen MacArthur Foundation. (n.d.). Building a world free from waste and pollution. Retrieved from <https://ellenmacarthurfoundation.org/articles/building-a-world-free-from-waste-and-pollution>
7. Ellen MacArthur Foundation. (n.d.). Circular economy in India. Retrieved from <https://ellenmacarthurfoundation.org/circular-economy-in-india>
8. FICCI & Accenture. (2021). FICCI-Accenture knowledge paper 2021. Retrieved from <https://www.ficcices.in/FICCI-%20Accenture%20Knowledge%20Paper%202021.pdf>
9. Image Sources: Shutterstock, freepik, Company websites
10. Kalaari Capital. (2022). Circular economy report 2022. Retrieved from <https://www.kalaari.com/wp-content/uploads/2022/04/Circular-Economy-Report-2022.pdf>
11. OLX Group. (2022). Impact report 2022. Retrieved from [https://www.olxgroup.com/wp-content/uploads/2023/07/Impact\\_Report\\_2022.pdf](https://www.olxgroup.com/wp-content/uploads/2023/07/Impact_Report_2022.pdf)
12. The Economic Times. (2011, October 17). The story of India's ₹60,000 cr second-hand market, minus cars and bikes. Retrieved from <https://economictimes.indiatimes.com/industry/services/retail/the-story-of-indias-rs-60000-cr-second-hand-market-minus-cars-and-bikes/articleshow/10533326.cms?from=mdr>
13. The World Bank. (n.d.). Trends in solid waste management. Retrieved from [https://datatopics.worldbank.org/what-a-waste/trends\\_in\\_solid\\_waste\\_management.html](https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html)
14. Tracxn. (n.d.). Retrieved June 12, 2023, from <https://tracxn.com/a/user/dashboard>
15. World Economic Forum. (2022, August 17). What will be the world's most populous countries by 2030? Retrieved from <https://www.weforum.org/agenda/2022/08/world-population-countries-india-china-2030/>



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economy startup?**

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