

Project Closure Report

Knowledge Partner for Utkarsh
Odisha: Make in Odisha (MIO)
Conclave 2025 for the session on
Circular Economy

March 2025



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1. Introduction

Background

Circular Economy at the Utkarsh Odisha- Make in Odisha Conclave 2024-2025

Utkarsh Odisha: Make in Odisha Conclave is the State Government’s flagship investment promotion conclave which also provides a unique opportunity for investors to understand Odisha’s policy and regulatory environment and new investment opportunities across the focus sectors. After a similar session in 2022, for the second time, the State Government organized a dedicated session on Circular Economy. The session was conducted by the State Pollution Control Board (SPCB) Odisha under the auspices of the Forest, Environment and Climate Change Department.

SPCB had invited proposals from the Tier-I consulting firms empanelled for “Governance initiatives in Odisha” under E & IT Department vide notification no. 22018/33/2022/NeGD Dated 17/05/24 to provide “Consultancy services as Knowledge Partner for Utkarsh Odisha- Make in Odisha (MIO) Conclave 2024-25 for the session on Circular Economy”. PwC was appointed as the Knowledge Partner through this procurement process.

PwC deployed a team to support the SPCB Odisha at their Bhubaneswar office, and provided a back-end team with Circular Economy expertise to work on the Framework for Circular Economy Vision 2036.

The support provided was a 9-week engagement from 30th Dec’24 to 28th Feb’25 with the SPCB as per the Contract to provide Consultancy services as Knowledge Partner for Circular Economy session at the Utkarsh Odisha- Make in Odisha (MIO) Conclave 2024-25 for the session on Circular Economy.

Project Timeline:

A brief overview of the project timeline, deliverables and activities undertaken is outlined below.



Session Theme:

The theme for the session was set as “Cradle-to-Cradle Vision for a Swachh and Viksit Odisha – 2036”.

2. Circular Economy at the Utkarsh Odisha-Make in Odisha Conclave 2025

The Circular Economy session at the Make in Odisha Conclave 2025 brought in over 800 registrations. Over 280 selected participants attended the event from the investor community including industrialists, entrepreneurs, innovators as well as academics and policy makers to discuss the opportunities and strategies to transition Odisha from a linear to a circular economy.

The session aimed to raise awareness about circular economy practices, strengthen the policy ecosystem, showcase Odisha's progress towards circularity, and create investment opportunities for industries. The event featured an Inaugural Program, a Technical Session, and a Panel Discussion, during which key representatives shared insights on circularity-related themes, challenges, and opportunities in their respective domains.

Table 1: Agenda for the Circular Economy Session

Inaugural Program	
Speakers	Topic
Shri Satyabrata Sahu, IAS Additional Chief Secretary, Forest, Environment & Climate Change Dept., Government of Odisha	Welcome Address and Setting the Context
Shri Siddhanta Das, IFS (Retd) Ex. DGF-cum-Special Secretary MoEF&CC, Chairman Central Empowered Committee, GOI	Theme Address
Dr. K. Murugesan, IFS Member Secretary, State Pollution Control Board, Odisha	Briefing the Vision Framework on CE
Shri Ganesh Ram Singh Khuntia, Hon'ble Minister Forest, Environment & Climate Change Dept., Government of Odisha	Release of Vision Framework on CE & Inaugural Address
Four case study videos displaying good works in the field of Circular Economy in Odisha	
<ol style="list-style-type: none"> 1. M/s Hindustan Coca Cola Beverages Pvt. Ltd. 2. M/s Indian Farmers Fertiliser Cooperative (IFFCO), Paradeep 3. M/s Indian Metals & Ferro Alloys Limited (IMFA) 4. State Pollution Control Board, Odisha 	
Technical Session	
Shri N. Subrahmanyam Scientist E, MoEF&CC, Govt. of India	Scope and Challenges of Circular Economy Sector in India and Odisha
Ms. Janavi Papriwal Associate Partner, Circulate capital	Financing the CE Sector: The role of Financial Institutions and its approach
Dr. Tapan Kumar Chand Ex CMD Nalco, Co-Convenor Odisha State, BJP Industry Cell	Circular Economy in Mines, Minerals and metals sector: Odisha Experience
Dr. Sidhartha S. Padhi Professor, IIM Kozhikode, Kerala	Future of Circular Economy and Market Preparedness
Panel Discussion	

Panelists	1. Shri Anivesh Tewari Head of Operation, PET Recycling – Asia Indorama Ventures Global Services Ltd.	Achieving circularity through efficient resource management: Is the State prepared?
	2. Shri Rajesh Pravakar Patil, IAS Bhubaneswar Municipal Corporation Commissioner	
	3. Shri N.D.Rao, Executive Director (Honorary), Recycling & Environment Industry Association of India (REIAI)	
	4. Ms. Sangeetha Raghuram, Executive Director, Water and Circular Economy, PwC	
	5. Mr. Raghavendra D. Khedkar, CMD of MGS Environ Pvt.Ltd.	
Moderator	Shri Raghu Babu Nukala Project Director, Deutsche Gesellschaft für Internationale Zusammenarbeit	
	Shri Debidutta Biswal, IFS Principal Chief Conservator of Forest & HoFF, Government of Odisha	Vote of Thanks

Below is a summary of the speakers, topics covered and highlights of the session:

Technical Session

Speaker 1: Shri N. Subrahmanyam, Scientist E, MoEF&CC, Govt. of India

Topic: Scope and Challenges of Circular Economy Sector in India and Odisha

Highlights:

- Efforts by the Government of India (GoI) to promote the concept of a circular economy (CE) such as sectoral committees for different waste streams were discussed.
- Formation of committees involving industry experts to develop recommendations for a circular economy action plan was discussed. Responsibilities were mapped out among different stakeholders, with the Ministry of Consumer Affairs and the Bureau of Standards playing key roles in enforcing EPR regulations and setting standards for recycled materials.
- An overview of waste generation in India was provided and the importance of EPR regulations for various waste categories, such as e-waste, plastic packaging, and batteries was highlighted. Targets for recycling and material recovery were discussed, alongside the challenges and opportunities associated with transitioning to a circular economy.

Speaker 2: Ms. Janavi Papriwal, Associate Partner, Circulate Capital

Topic: Financing the CE Sector: The role of Financial Institutions and their approach

Highlights:

- The urgent need for a transition to a circular economy to address the global waste crisis was highlighted, emphasizing the quadrupling of plastic consumption over the past 30 years. She pointed out that adopting circular economy principles could reduce global plastic waste by 80% and prevent 500 million tonnes of greenhouse gas emissions annually by 2040, resulting in potential savings of over US\$ 4.5 trillion in environmental and social costs.

- Financial institutions can play a crucial role in this transition by investing in scalable solutions and forming strategic partnerships to transform circular plastic supply chains. She discussed key strategies that her firm focuses on including enhancing waste collection, scaling upcycling efforts, and increasing digitization, while supporting local SMEs and fostering community and economic benefits. By doing so, financial institutions can achieve competitive financial returns and generate positive environmental and social impacts.
- Collaborating with cities and corporate entities is essential for scaling solutions. Building partnerships allows financial institutions and companies in the circular economy space to leverage expertise for product development and market expansion.

Speaker 3: Dr. Tapan Kumar Chand, Ex CMD NALCO, Co-Convenor Odisha State, BJP Industry Cell

Topic: Circular Economy in Mines, Minerals and Metals Sector: Odisha Experience

Highlights:

- The extensive opportunities offered by a circular economy were emphasized by Mr. Tapan, Ex CMD of Nalco. It was noted that every second, 60 tons of waste are generated.
- A circular economy is described as a sustainable, zero-waste, and zero-discharge economy. Its application in the aluminium industry was mentioned, where bauxite ore is mined, and laterite sheets can be used. It was noted that for every ton of alumina, 1.5 tons of red mud are produced, which can be monetized with the correct technology. Opportunities with Hindalco and Vedanta were identified since they produce a high quantity of red mud. Sequestration and carbon capture were mentioned as mechanisms to be utilized.
- The need for circular economy adoption in the aluminium industry was emphasized for collecting aluminium waste, as it is an infinitely recyclable metal with huge potential.

Speaker 4: Dr. Siddharth S. Padhi, Professor, IIM Kozhikode, Kerala

Topic: Future of Circular Economy and Market Preparedness

Highlights:

- The integration of circular economy practices into mainstream industries for long-term growth was discussed. Recycling initiatives within the Indian Railways and the potential for recycled plastic products were highlighted. The use of indigenous knowledge was emphasized by Dr. Padhi to illustrate how sustainable development across various sectors can be driven by circular economy principles.
- Overall, the importance of cross-disciplinary collaboration, policy support, and technological innovation in advancing circular economy practices in Odisha and beyond was underscored by the session.

Panel Discussion

The panel discussion focused on Odisha's preparedness in achieving circularity through efficient resource management, highlighting the state's efforts to transform waste into wealth. The discussion explored the potential and investment opportunities in Odisha's waste management sector from an investor's perspective, emphasizing the importance of a conducive policy and regulatory framework to attract and sustain investments. Additionally, the panel addressed opportunities in the mining and iron

& steel sectors, underscoring the need for effective strategies to manage resources sustainably and promote economic growth through innovative waste management solutions.

3. Intents Received

Utkarsh Odisha- Make in Odisha Conclave 2025 resulted in attracting 22 companies to invest in 28 projects worth of Rs 4074.73 Cr in the Circular Economy sector in Odisha. These projects would create 3,906 direct and 23,449 indirect employment opportunities. All the 22 projects cumulatively require 484 acres of land to implement the intended projects successfully. Detailed list of the intents received is presented in the table below.

Table 1: List of intents received

S.No.	Company	Brief of Project	Investment (Rs. In Cr.)	Employment Direct	Employment Indirect	Land Requirement (in acre.)
1	IDVB Recycling Operations Pvt. Ltd.	Post Consumed PET Bottle Recycling	405.78	240	NA	12
2	IDVB Recycling Operations Pvt. Ltd.	Recycling of Solid waste coming from our recycling process	7.47	10	NA	2
3	Ganesh EcoPET	Manufacturing Unit of PET Granules with annual capacity of 45K MT	520.00	300	200	40
4	Cooperation for Rural Excellence (CORE)	Solid and Plastic Waste Management	4.47	25	150	0.09
5	Wealth Mart Recycling Pvt Ltd	Solid and Plastic Waste Management	2.80	20	125	0.091
6	Utkal Sevak Samaj	Electrical Electronics Waste Management	5.50	20	60	2
7	Bhushan Power & Steel Ltd	Plastic Shredder Unit to process and repurpose Plastic waste from own plant	0.50	1	4	0.05
8	Bhushan Power & Steel Ltd	Process Solid Waste Granulation Unit	12.00	1	70	0.1
9	Ecolizer	Chemical recycling of low value hard to recycle plastic	10.00	30	150	0.45
10	Tata Steel Ltd., Kalinganagar	Waste Management: Eco friendly paving Blocks using Iron & Steel Slag: A	1.00	20	10	0.48

S.No.	Company	Brief of Project	Investment (Rs. In Cr.)	Employment Direct	Employment Indirect	Land Requirement (in acre.)
		Sustainable approach towards utilization of plant-generated slag by-products				
11	Tata Steel Ltd., Meramandali	Utilization of Steel Plant process solid waste through Agglomeration (Sintering/Briquet) - Circular economy (Waste Utilization)	29.25	50	NA	0
12	HINDALCO Industries Ltd (Unit - Aditya Aluminium)	Installation of Dross Processing Unit for Recovery of Aluminium Metal - Waste Management	7.51	50	10	0.46
13	HINDALCO Industries Ltd (Unit - Aditya Aluminium)	Enhancement in Aluminium metal production by addition of 100 KTPA recycled molten metal for production of carbon aluminium - Waste Management	5.25	11	500	0
14	Indian Farmers Fertiliser Cooperative Limited, Paradeep (IFFCO)	Utilisation of Gypsum as a substitute material of sand / soil for road construction - Waste Management	0.00	10	10	0
15	HINDALCO Industries Ltd, Hirakud	Installation of facility for segregation of MSW for supplying to cement plants - Waste Management	2.00	10	NA	0
16	HINDALCO Industries Ltd, Hirakud	Installation of Facility for conversion of Fly Ash to Sand - Waste Management	3.00	10	NA	0
17	Utkal Alumina International Limited	Utilization of Red Mud in Road Construction -	6.00	No Direct Employment	50	0.84

S.No.	Company	Brief of Project	Investment (Rs. In Cr.)	Employment Direct	Employment Indirect	Land Requirement (in acre.)
		Waste Management				
18	Steel Authority of India Ltd, Rourkela	Waste water treatment system under zero liquid discharg for reusing of waste water into steel making process of Rourkela Steel Plant	165.00	10	50	4
19	Jindal Stainless Limited	Utilization of Tailings generated from Chrome Ore Benefeciation Plant (COBP) located at Suinda Chromite Valley for production of low grade Ferro-chrome - Waste Management	15.00	20	50	0
20	Paradeep Phosphates Limited	Setting up of Aluminium Fluoride manufacturing facility at PPL. Aluminium Fluoride is essential for aluminium smelting, by removing impurities and ensuring high-purity fluoride.	200.00	40	300	
21	Paradeep Phosphates Limited	Installation of Fluorine Recovery Units (FRU) at existing PPL manufacturing facility. This upgrade will ensure compliance with emission standars and reinforce the company's commitment to sustainable, responsible production practices.	25.00	8	120	

S.No.	Company	Brief of Project	Investment (Rs. In Cr.)	Employment Direct	Employment Indirect	Land Requirement (in acre.)
22	Orissa Metaliks Private Limited	Utilization of Fly ash in proposed 1.25 million TPA Cement Grinding Unit, also fly ash utilization in manufacturing of Aerated Autoclaved Concrete Block & LD Sludge (30%) in Pellet Plant (Waste management Project)	255.00	250	600	0
23	Epsilon Carbon Ashoka Pvt Ltd	Epsilon to build manufacturing capacity in Odisha for Coal Tar Distillation & Carbon Black. The project is approved in SLSWCA. (Waste management Project)	490.00	600	800	172
24	Oil India Limited	Establishment of 7 (seven) Compressed BioGas (CBG) plants at Bhubaneswar, Cuttack, Rourkela, Behrampur, Boudh - Subarnapur, Sambhalpur & Puri - Konark (Waste management Project)	1000.00	180000 man-days	60000 man-days	70
25	Re Sustainability Ltd.	Development of Eco Industrial Park/ Integrated Recycling Park	600.00	1000	20000	110
26	Re Sustainability Ltd.	Development of Integrated MSW Projects	250.00	750	NA	60
27	Greenescape Eco Management Pvt Ltd	Circular economy in E-waste, Battery waste and other alight weight	50.00	50	60	10

S.No.	Company	Brief of Project	Investment (Rs. In Cr.)	Employment Direct	Employment Indirect	Land Requirement (in acre.)
28	IOCL Paradip Refinery	Re-processing/ Recycling of the Hazardous wastes lying in secured landfill (SLF) of Paradip Refinery	2.20	10	10	0

The figures below depict the district-wise direct employment potential and land requirement as specified in the intents from the industries:

Figure 1: District-wise Direct Employment

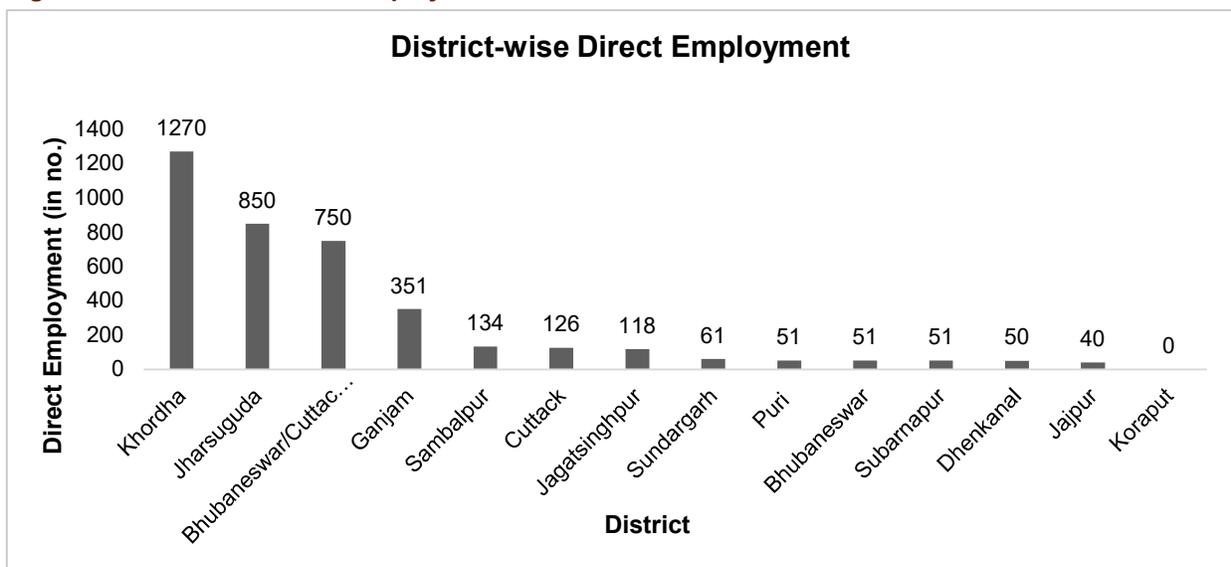
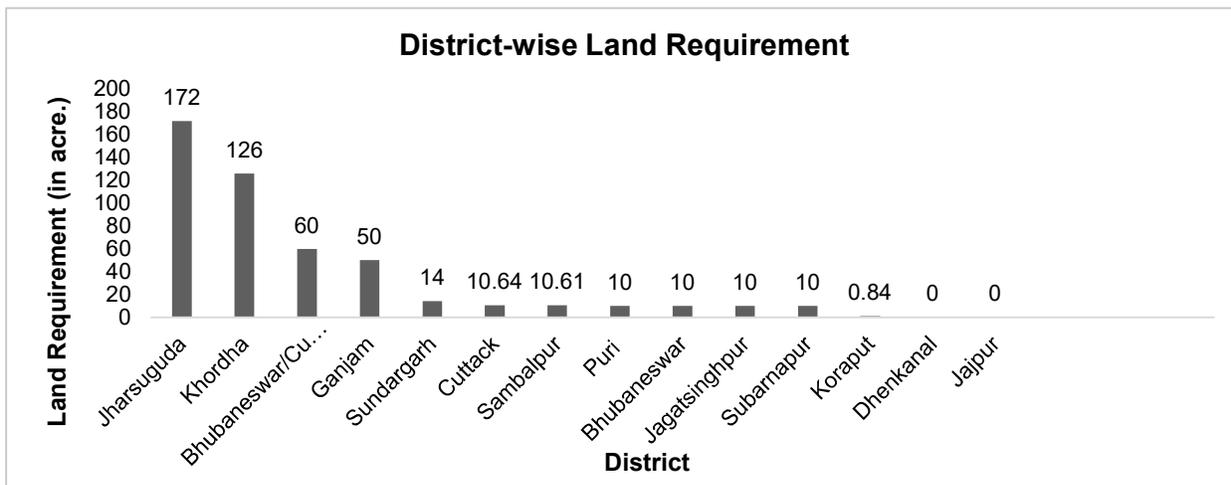


Figure 2: District-wise Land Requirement



Highest employment opportunities would be generated in Khordha followed by Jharsuguda. As per the intents received, maximum land is required in Jharsuguda followed by Khordha.

Note: Intent received by ReSustainability Pvt. Ltd. have given three choices as Location Preference

The following table and chart show the sector-wise analysis of the investment intents along with the employment potential and land requirement for each sector as received from the industries:

Table 3: Sector-wise analysis of intents

#	Waste Sector	Direct Employment (in no.)	Investment (Rs. In Cr.)	Land Requirement (in acre)
	All/Other	1000	600.00	110.00
	Battery	50	50.00	10.00
	E- Waste	20	5.50	2.00
	Gypsum	10	0.00	0.00
	Industrial	929	1158.20	176.94
	Industrial	90	45.25	0.00
	Metal Waste	61	12.76	0.46
	MSW	1162	1259.27	130.18
	Plastic	581	943.75	54.51

Figure 3: Sector-wise investment (in Cr.)

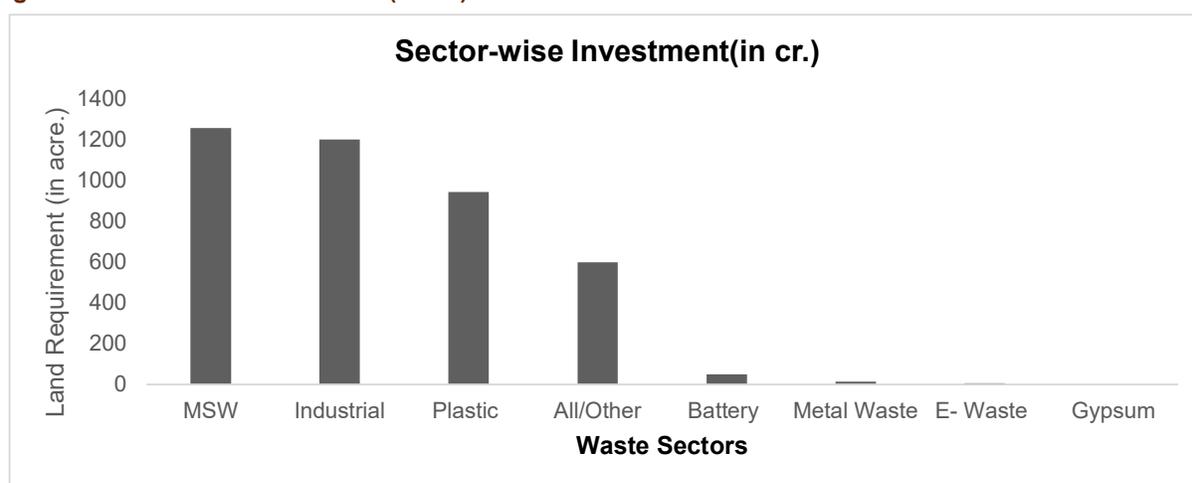


Figure 4: Sector wise employment potential

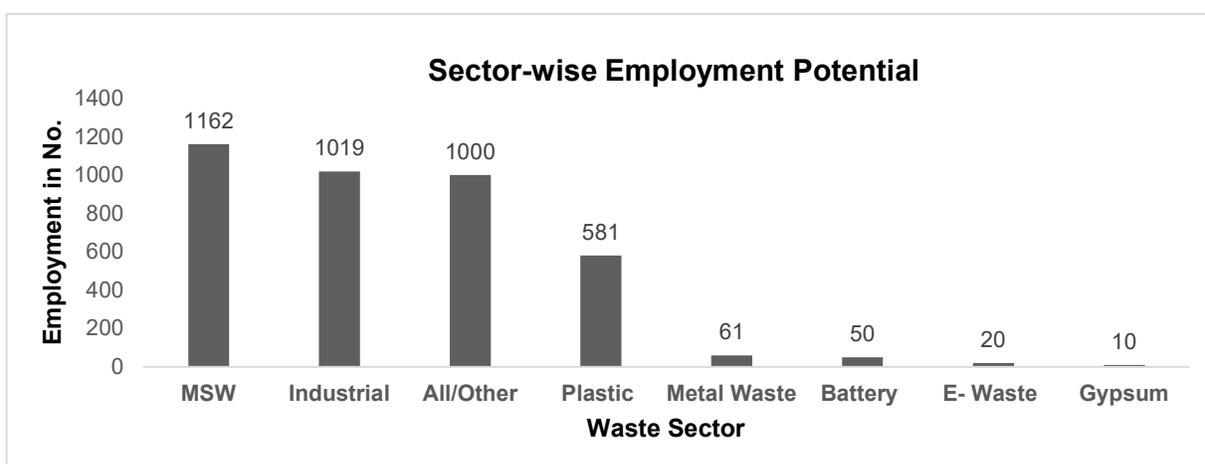
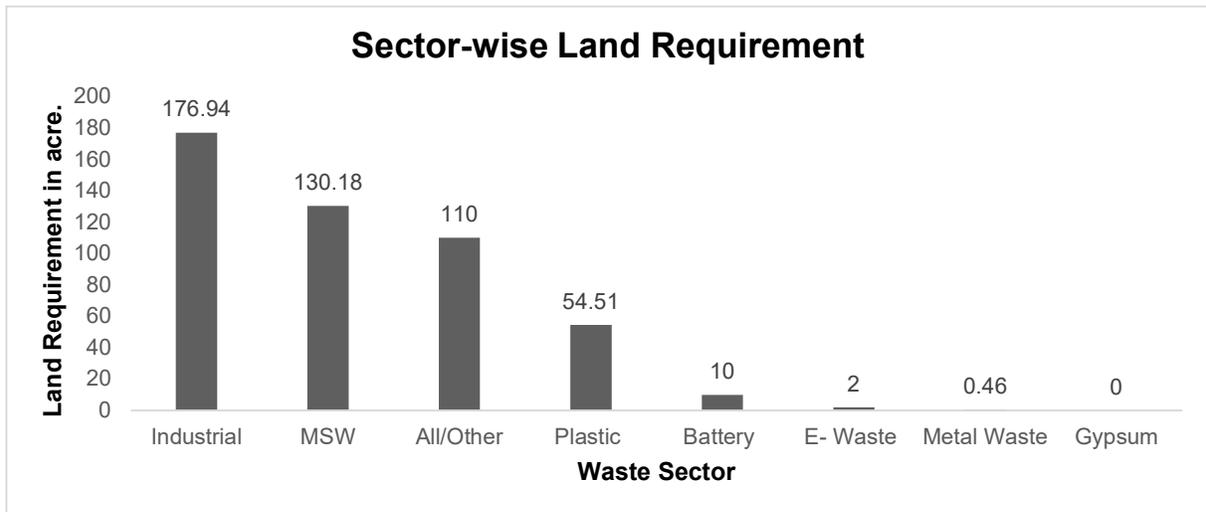


Figure 5: Sector wise Land Requirement



MSW sector has received the highest investment intent in the Circular Economy sector in the state followed by industrial and plastic. The land requirement would be highest for Industrial Waste followed by MSW sector waste. As per the intents received, MSW as a sector would be generating maximum employment opportunities followed by industrial and plastic. Maximum land is required by the steel sector followed by the plastic sector.

4. Stakeholder Consultation

Following the release of the Vision Framework at the Utkarsh Odisha: Make in Odisha Conclave 2025, a Stakeholder Consultation Workshop was conducted on March 1, 2025, to strengthen Odisha's transition to a Circular Economy. This workshop was designed to gather insights and feedback from a diverse array of stakeholders crucial to the state's economic and environmental landscape. By understanding these perspectives, Odisha aims to ensure its path forward is comprehensive, realistic, and effectively addresses both challenges and opportunities unique to the region.

The workshop brought together participants from various sectors, including government officials, industry leaders, recyclers, and representatives from NGOs. The session began with an overview of Utkarsh Odisha and the Intents Received, a detailed presentation on the key aspects of the Vision Framework followed, highlighting the strategic goals and implementation strategies envisioned for Odisha's Circular Economy transition.

Stakeholder	Representation
Government	43%
Industry (Metals & Mining, Chemicals, Fertilizers, Oil & Gas)	40%
Recyclers	11%
Non-profit Organizations	6%

The workshop focused on gathering feedback from stakeholders through discussions and online forms. Representatives from key sectors in Odisha shared their challenges and requirements, providing a thorough understanding of the landscape.

The insights gathered from this consultative process will be instrumental in implementing Odisha's Vision Framework, making it more robust and effective in achieving state's circularity goals.

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