

# Waste

# Insights

FUTUREScape : THE CUSTOMER EXPERIENCE COMPANY





# Mountains of Waste

## INTRODUCTION

**Leading Indian companies  
recognise waste  
management as a key issue**

THIS REPORT IS BASED ON INDIA'S TOP COMPANIES FOR SUSTAINABILITY AND CSR  
A 5 YEAR STUDY OF TOP 200 INDIAN COMPANIES

# Plastic Waste

Plastic is used in various sectors such as building & construction, consumer products (such as furniture, housewares, automobiles, electronics, etc.), industrial goods (such as machines) and packaging. Packaging forms the lions share in plastic consumption as the latter is a material of choice in nearly half of all packaged goods. Despite being a material with very useful properties, its omnipresence and non-biodegradable nature is creating a huge environmental challenge.

In 2016, as part of the revision in the Plastic Waste Management rules, the Government introduced three key components, viz. a) Extended Producer Responsibility (EPR), b) phasing out of manufacture and use of non-recyclable multi-layered plastic and c) reuse of plastic. In our study of top 200 companies, we found programs being initiated for the first and the third components, but nothing was disclosed for multi-layered plastic phasing out.

The multi-pronged approach for plastic management is likely to gain momentum across industries, especially consumer staples, in the wake of the ban on single-use plastic materials in at least five states and the ongoing negotiation between private players and authorities on the quantum of responsibility being shared for plastic waste management. Reducing, substituting, reverse collection, and collaboration could be the focus areas. Early this year, PepsiCo said that all its packaging is recyclable or energy recoverable. It is planning to pilot the first-ever 100 per cent compostable, plant-based packaging for Lay's and Kurkure snacks products this year. Separately, state governments like Gujarat and some NGOs are installing reverse vending machines to recycle plastic. And Nestle India is extending its EPR in pact with other stakeholders to 12 states.

REFERENCES:  
[HTTP://SMARTINVESTOR.BUSINESS-STANDARD.COM/MARKET/STORY-530694-STORYDET-FROM-ITC-TO-DABUR-PLASTIC-WASTE-CONTROL-TOP-PRIORITY-FOR-FM-CG-FIRMS.HTM#.W1LKKNIZZPY](http://smartinvestor.business-standard.com/market/story-530694-storydet-from-ITC-TO-DABUR-PLASTIC-WASTE-CONTROL-TOP-PRIORITY-FOR-FM-CG-FIRMS.HTM#.W1LKKNIZZPY)  
[HTTP://SMARTINVESTOR.BUSINESS-STANDARD.COM/MARKET/STORY-530694-STORYDET-FROM-ITC-TO-DABUR-PLASTIC-WASTE-CONTROL-TOP-PRIORITY-FOR-FM-CG-FIRMS.HTM#.W1LKKNIZZPY](http://smartinvestor.business-standard.com/market/story-530694-storydet-from-ITC-TO-DABUR-PLASTIC-WASTE-CONTROL-TOP-PRIORITY-FOR-FM-CG-FIRMS.HTM#.W1LKKNIZZPY)

# Plastic Waste

01

## Consumer companies reduce, reuse and recycle plastic

As part of EPR, companies (mostly consumer staples) have disclosed various reduce, reuse and recycle initiatives that they are planning to take or have started for managing plastic used in their products (mainly packaging).

### Programs for plastic management through the life-cycle

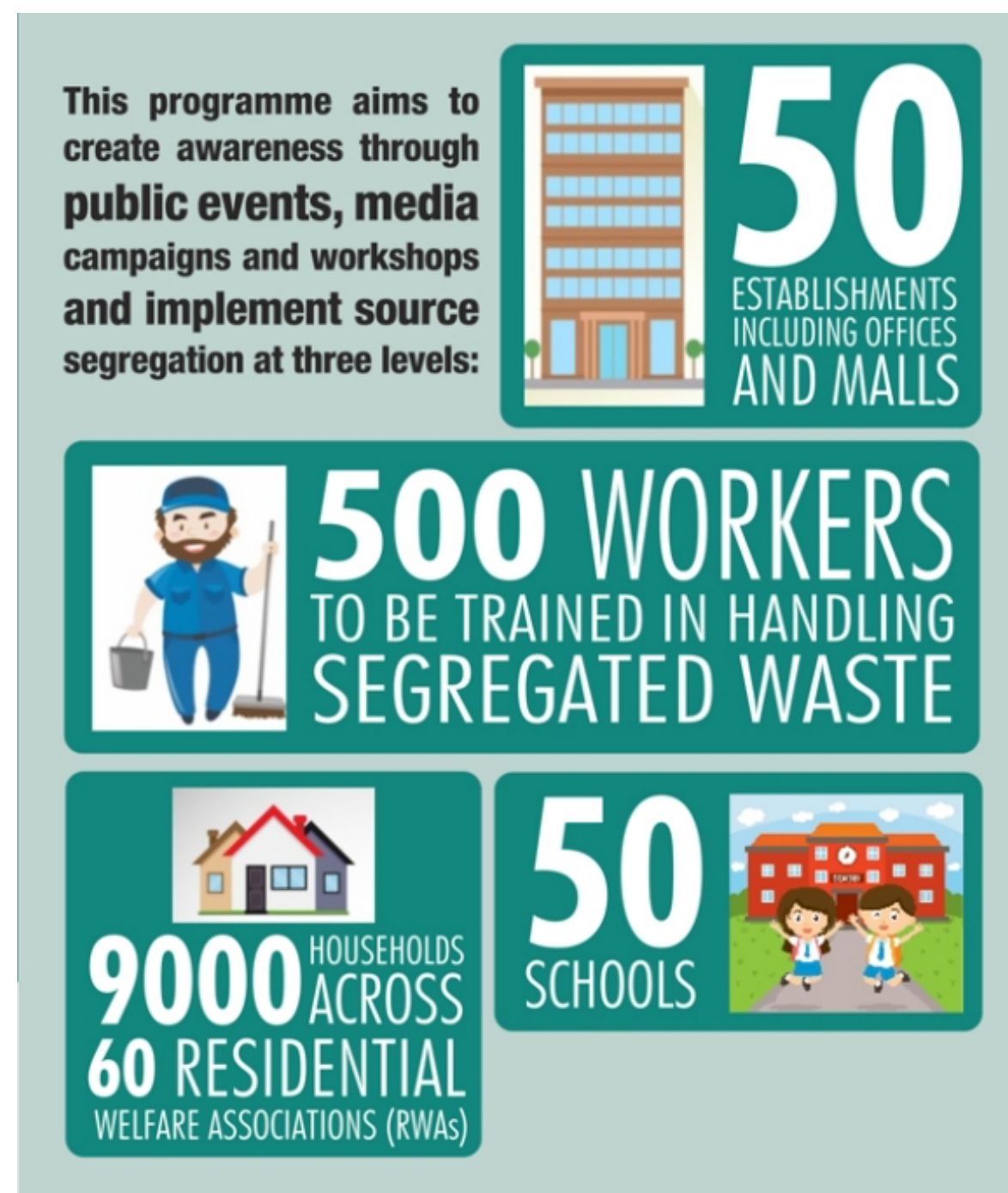
Operations - Production	Consumer	Waste management
Reduce material consumption	Collect back consumer waste	Co-processing
Reuse plastic packaging	Awareness building	Recycle
Increase recycled content in packaging		
Utilize bio-based packaging material		

# Plastic Waste

02

## Partnerships with 3rd parties and supply chain vendors for consumer waste collection

“Alag Karo – Har Din Teen Bin” is a source segregation project by Coca-Cola India in partnership with Saahas, Tetra Pak and GIZ



For consumer waste collection, consumer staples companies are tying-up with both supply chain and third-party service providers.

- Coca-Cola India's bottling partners work together with consumers, collection agencies, and authorized recycling partners to ensure that PET waste is collected and recycled to the extent possible.
- Dabur has tied up with Indian Pollution Control Association (IPCA) and NEPRA for recycling plastic waste across nine states and is being expanded to more states.

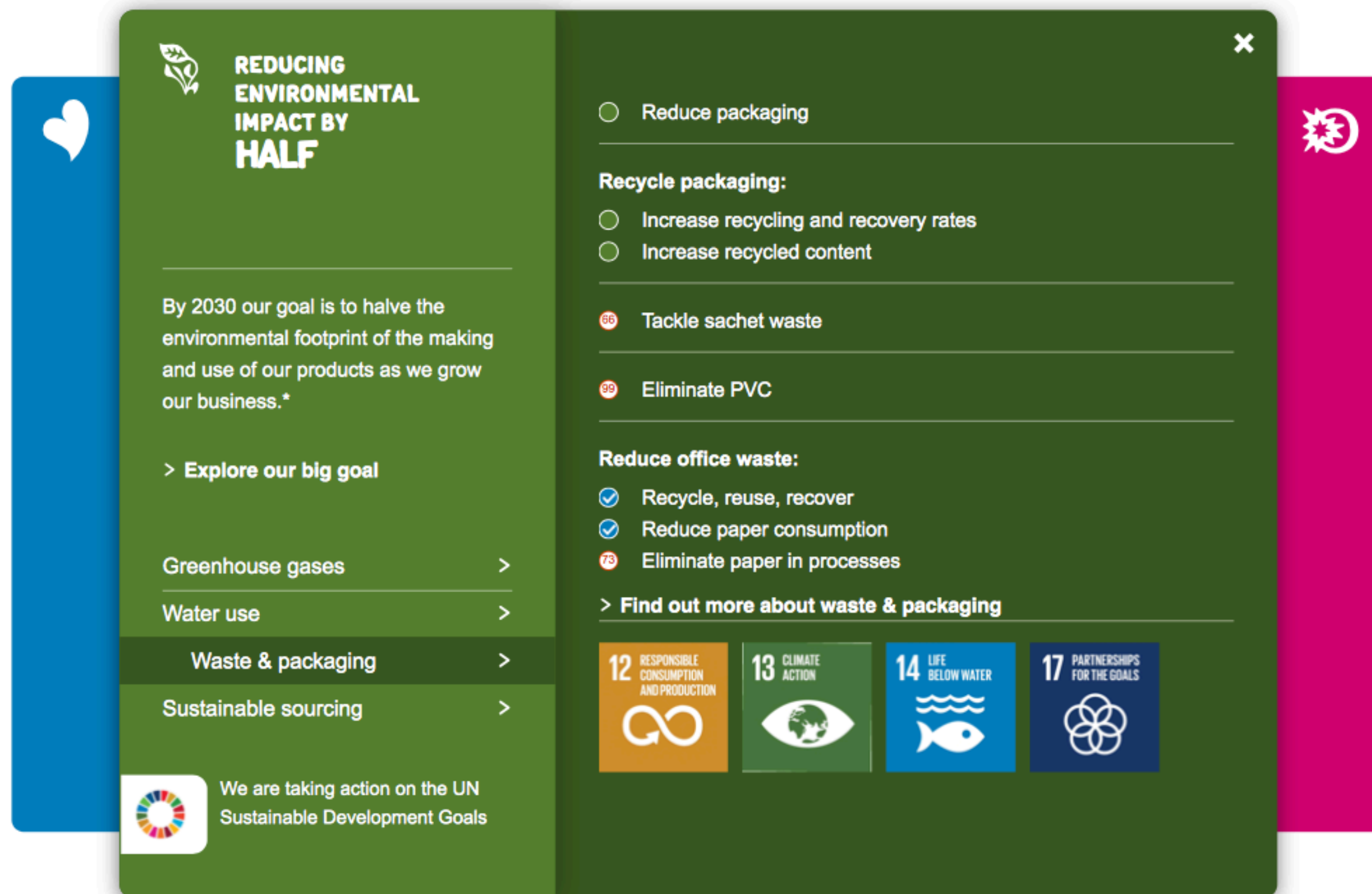


# Plastic Waste

03

## Tangible targets are given for plastic waste

### The Unilever Sustainable Living Plan



Some manufacturing companies have disclosed tangible targets for responsible management of plastic packaging.

- Coca-Cola aims to recycle a bottle or can for every one bottle or can that it sells globally by 2030.
- HUL and ITC target to make their plastic packaging fully reusable, recyclable or compostable in near future (HUL by 2025 and ITC in the next decade).
- P&G's vision is to use 100% renewable or recycled materials for all products and packaging in the long-term.
- Aditya Birla Fashion & Retail aims to achieve 100% usage of sustainable material in its packaging by 2020.
- Tata Chemicals plan to have 100% recyclable or reusable packaging by 2020.

# Plastic Waste

04

## Up-cycling plastic

Some companies are taking baby steps to recycle plastic as an input in fibre, for making fuel and for making roads.

- Aditya Birla Fashion & Retail and Alok Industries upcycle PET bottles into staple fibres for creating sustainable apparel.
- GAIL is conducting research on conversion of waste plastic to diesel.
- Nestle India has installed a plant at its manufacturing facility in Tahilwal which converts laminate waste to fuel.
- BPCL has developed a technology that utilizes waste plastic for making roads.

Within the supply chain, very few companies reported plans to manage plastic responsibly. Tata Chemicals intends to re-use empty plastic drums in collaboration with its chemical suppliers, Urefix. And Ashok Leyland plans to minimize usage of packaging material like plastic in their supply chain.



SOURCE : [HTTPS://WWW.THEHINDU.COM/SCI-TECH/ENERGY-AND-ENVIRONMENT/PLASTIC-BOTTLES-TURN-MATTRESSES-QUILTS-MUCH-MORE/ARTICLE18714374.ECE](https://www.thehindu.com/sci-tech/energy-and-environment/plastic-bottles-turn-mattresses-quilts-much-more/article18714374.ece)



# Measures for plastic management in operations

- P&G re-designed Olay pump package to reduce plastic consumption. It is 25% lighter and saves over 400 tons of packaging a year (the weight of a Boeing 747)
- Nestle India reduced around 800 tonnes of packaging material through packaging optimisation in 2016
- GCP optimised its Expert powder hair colour laminate and reduced its plastic utilization by more than 73 tonnes
- Britannia re-engineered its packaging laminate and paper-based packaging to use of less plastic and paper in the product portfolio.
- HUL optimised the packaging designs and changed the packaging formats of its products to use less plastic
- DRL reduced the gauge size of LDPE bags from 400 to 200 and achieved a 40% weight reduction of the polybags being used

operations

**Reduce  
material  
consumption**

01



# Measures for plastic management in operations

- Tata Chemicals has introduced reusable primary outer bags.
- GCP achieved more than 80% reusability of its empty plastic soap noodle bags.  
They have established a collection system through reverse logistics.
- Tata Global Beverages Ltd. is recycling plastic as a packaging material.

operations

**Reuse  
plastic  
packaging**

02



# Measures for plastic management in operations

- HUL uses r-PET (80% recycled PET) in its blister packs for personal care brands like Pepsodent toothbrush ad Fair & Lovely
- Nestle India used c35% (by value) of recycled material in its packaging.
- Asian Paints' plastic container contains 20% recycled material.

operations

**Increase  
recycled  
content in  
packaging**

03



# Measures for plastic management in operations

- Coca-Cola is a member of PET Plant Technology Collaborative which is focused on accelerating the development and use of 100% plant-based PET plastic.
- Titan Company - In the boutiques, the Company chooses to use jute and cardboard bags instead of plastic. At the Titan Jewellery factory, the company has implemented oxo biodegradable bags, which are more environment friendly than regular plastic bags
- Axis Bank Ltd - In the quest to provide customers with 'Green Banking' choice, the company is in the process of evaluating options for making bio-degradable cards available for select product segments.
- Ambuja Cements Ltd - The Company uses HDPE and biodegradable paper bags for packing cement.
- Idea Cellular encourages use of bio-degradable packaging of Recharge vouchers.

operations

**Bio-based  
packaging  
material**

04



# Measures for plastic management in operations

- GCP and TGB are collaborating with Bhabha Atomic Research Centre and Dow Chemicals, respectively to develop sustainable materials for packaging.
- Nestle is exploring how to create shared responsibility between industries and authorities to find a long-term solution to plastic waste management.

operations

**Collaborating  
for  
sustainable  
material**

05



# Measures for plastic management in operations

- During the year, 51,405 tonnes of plastic waste were co-processed in Ambuja Cement's kilns. This was 1.54 times the plastic used in their cement packing bags, making them plastic positive.

operations

Co-  
processing

06



# Measures for plastic management in operations

- Coca-Cola India is piloting Reverse Vending Machines which can crush empty PET bottles into chips inside the machine
- TCS, HDFC and Zee have a plastic bottle shredder which converts PET bottles into plastic flakes which can be recycled
- Tata Motors recycles plastic generated at the end of useful life of the vehicle in the Tata vehicles, making it a closed-loop recycling initiative
- At P&G's Baddi plant, scrap material is transformed into useful daily needs- such as the melted plastic is being used for making chairs.
- P&G India is piloting a new technology that recycles used absorbent hygiene products (baby diapers, adult incontinence and fem care products), turning them into higher value products and applications.
- Nestle ensures that all packaging material waste from its manufacturing facilities is sent to approved recycling agents.

operations

**Recycling**

07

# Measures for plastic management for consumers

- Dabur is exploring opportunities to create recycling stations for consumer waste along with its packaging suppliers and third-party service providers.
- Coca-Cola India is piloting Reverse Vending Machines which can accept empty PET bottles
- Coca-Cola India bottling partners continue to work together with consumers, collection agencies, and authorized recycling partners to ensure that PET waste is collected and recycled to the extent possible.
- Nestle supports initiatives to recycle and recover used packaging.

consumers

**Collect  
consumer  
waste**

08



# Measures for plastic management for consumers

- Mahindra & Mahindra raised awareness about the ill-effects of plastic on health and marine-life.
- Coca-Cola India promotes recycling of PET bottles.
- HCL Technologies and Reliance Infrastructure conducted plastic waste collection drives.
- Federal Bank has opened a “Plastic Exchange Kiosk” at Sabarimala Temple to collect plastic covers and used bottles from pilgrims.
- And Godrej Consumer Products’ municipal waste management project in Hyderabad and Guwahati recycles plastic waste into granules and converts the non-recyclable plastic waste into poly fuel.

consumers

**Awareness  
building**

09

# E-waste

Following the revision in the E-waste management and Handling Rules in 2016, we find a noticeable improvement in the number of companies that reported that they manage e-waste responsibly. However, the proportion of companies is still less than 50% and almost half the number of companies that manage their other solid waste.

From a governance perspective, companies usually do not have a separate E-waste management policy. They comply with the e-waste management guidelines and dispose it to recyclers authorized by the Pollution Control Board. TCS India conducts a stringent due-diligence of their e-waste recycling service providers to ensure compliance with health, safety, and environment-related regulations and good onsite handling practices. Few companies extend e-waste management practices to other stakeholders.

- **Employees:** Cisco Systems India and Welspun India encourage their employees to bring their e-waste to offices to have them responsibly recycled.
- **Customers:** Redington India has made arrangements at several collection centres across India to help customers dispose their e-waste in an environmental friendly manner.
- **Suppliers:** Videocon educates its dealers on e-waste management and Wipro verifies all empanelled vendors as per its e-waste management guidelines.
- **Community:** Cummins India employees reach out to housing societies on the weekends to disseminate information and collect e-waste. Wipro works on community e-waste issues and a common e-waste collection centre is now operational in Bangalore.

We expect more companies to disclose their e-waste management practices going forward. As per the E-waste management Rule, companies need to record the e-waste generated by them and make it available to CPCB for scrutiny. This is likely to improve the depth of the disclosure with more companies sharing the percentage of waste being recycled and its absolute volume.

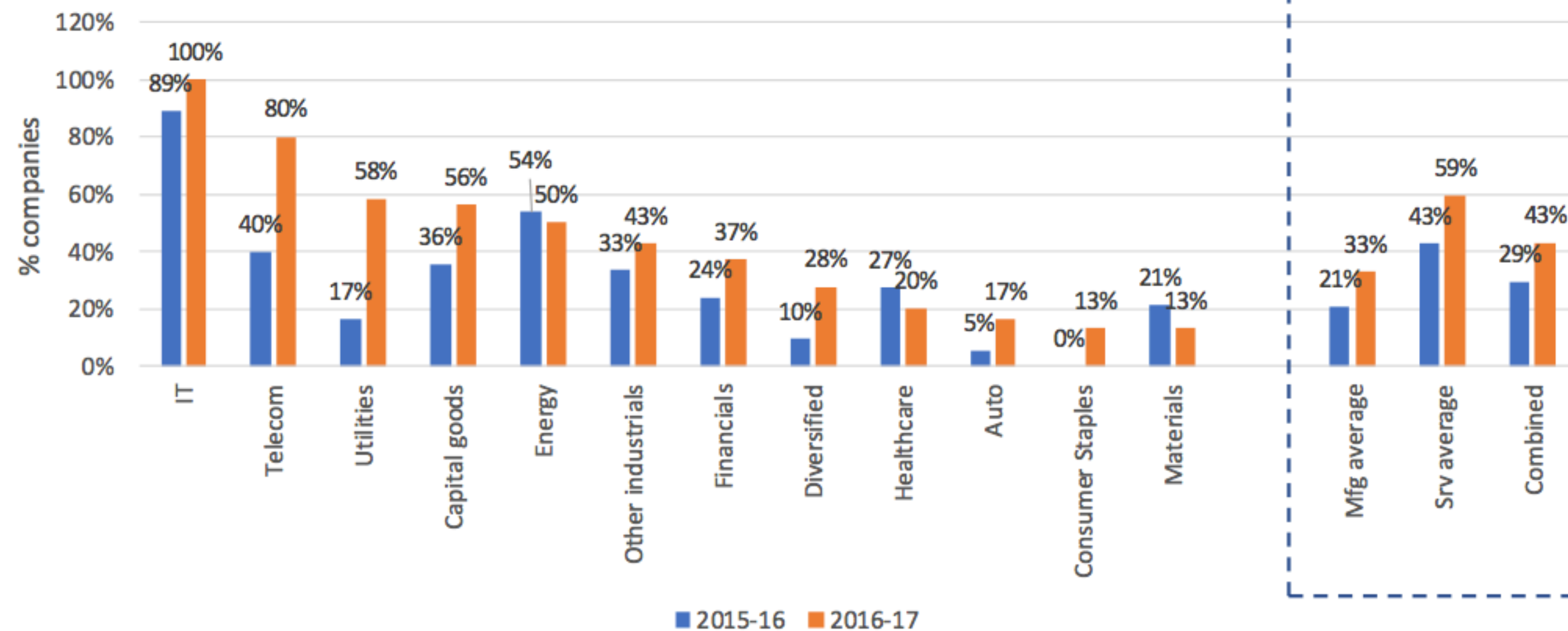


# E-Waste

01

**43% companies disclose e-waste programs**  
**14% increase**

E-waste management programs



Across both manufacturing and service sectors, we find an increase in the number of companies that disclosed responsible e-waste management programs in their reports. Service industries maintain their lead in e-waste management efforts. Financials, however, continue to lag.

## E-Waste

02

### Buyback agreements with suppliers

Some companies also have buy-back agreements with their electronic suppliers or manufacturers for responsibly managing their e-waste. At Power Grid, BPCL and GAIL India, used batteries and electronic waste are channelled back to either the manufacturers or registered recyclers for recycling. YES Bank, in partnership with Canon, responsibly disposed empty toner cartridges during the year. Apollo Hospitals follows a stringent “Buy Back Policy” from vendors for e-waste and old medical equipment.



## E-Waste

03

### Refurbishing older equipment

In the Telecom industry, we find that the service providers encourage refurbishing and reuse of electronic products such as set-top boxes (STB), servers, storage equipment, network equipment, etc. Bharti Infratel gets its products refurbished by a principal supplier for reuse. At Reliance Communications, around 20% of new installations use refurbished STBs.

Idea Cellular is committed to doubling the percentage of recycled equipment in the next five years.

## E-Waste

# 04 | Customer connect

As part of “Extended Producer Responsibility”, some companies help their customers manage e-waste responsibly. The Cisco Technology Migration Program (TMP) and Exceptional Pick-Up Program (EPUP) enables customers to return used equipment. Titan educates customers about the harmful effects of non-scientific battery disposal. They have a scientific disposal facility for used watch batteries. Exide buys-back old batteries from customers through its dealer network. And Videocon has tied-up with an authorised e-waste recycler for facilitating its customers to dispose-off e-waste.



# Community waste Management

Indian companies are looking beyond their operations/locations under “Swachh Bharat Initiatives”(Clean India) to include communities to help them manage their municipal waste.

The Clean India Initiative now has four components – for Urban Areas, for rural areas, Cleaner schools and the Rashtriya Swachhata Kosh (National Cleanliness Fund). Many of the companies studied, under their CSR initiatives have programs for cleaner schools and sanitation but, starting 2016-17 community waste management is gaining prominence, as companies are closely working with authorities for implementing programs for cleaner urban and rural areas.

Companies involved in community waste management, undertake initiative to manage both solid waste and waste water. Majority of the initiatives revolve around solid waste with the latter being reported by only a few companies.

# Community Waste

01

## Creating awareness and conducting cleanliness drives

The most commonly followed practices in community solid waste management were creating awareness and undertaking cleanliness drives. Companies organized cleanliness drives at pilgrimages, public transport hubs and other tourist areas. They set up kiosks there to collect waste and created awareness among people to responsibly dispose waste generated.



# Community Waste

02

## Solid waste is composted, also used as alternative fuel

Other frequently implemented initiatives were, collecting and segregating solid waste, converting it into compost, using it in their operations as Alternative Derived Fuels (ADF) or Refuse Derived fuel (RDF) and co-processing it.

The Ministry of Urban Development has set a target of October 2019 for converting all organic waste generated in cities into compost or biogas and marketing the compost with the help of fertilizer companies. The policy on promotion of City Compost was approved in the year 2016 to provide Market development Assistance to fertilizer companies to market compost generated from community waste. We find few fertilizer companies taking the lead here.

Separately, some companies have implemented programs to collect back waste from customers which serves the twin purpose of material conservation and reducing the amount of waste sent to landfills. ABFRL has a program to collect clothes from customer and re-use the fabric.

# Community Waste

03

## Waste is treated and used

Apart from solid waste, some companies have set up facility to treat municipal waste water and utilize it in their operations. This serves the dual purpose of reducing fresh water intake in the company's operations and reducing the amount of contaminated untreated water released.

- Asian Paints has initiated a pilot project for use of municipal sewage water in production.
- MRPL has enhanced the intake of sewage treated water in its operations.
- Rashtriya Chemicals & Fertilizers is setting up an additional STP wherein a portion of the treated water will be supplied to BPCL.



# Community waste management initiatives

- Mahindra & Mahindra Ltd. - The team raised awareness about the ill-effects of plastic on health and marine-life among the employees and in the neighbourhood.
- Godrej Consumer Products Ltd.- has a project in Hyderabad in partnership with the local municipalities and one in Mumbai in partnership with 25 colleges to make college students more aware of the criticality of solid waste management and champions of change
- Apollo Tyres Ltd. Clean My Transport Nagar (CMTN) projects and Clean My Village (CMV) targets to create sustainable waste management practices and generate awareness

Solid Waste

**Awareness  
building**

01

# Community waste management initiatives

- ONGC: tons of garbage's are brought down from the high-altitude mountain ranges of Uttarakhand..
- HCL Technologies Ltd. HCL employees and students in HCL Gurukuls planted saplings and collected hundreds of kilograms of plastic waste during various waste collection drives.
- Interglobe aviation: No Open Waste (NOW) project was launched to cover 6500 households in Ward 6 in Gurugram.
- Power Grid: Collection and disposal of Municipal Solid Waste in 25 wards of Varanasi
- Max Financial Services: waste is being collected daily from households.
- NTPC: Revival of Municipal Solid Waste processing plant at Karsada, Varansi and its Operation and Maintenance for 6 months.

Solid Waste

**Waste  
Collection**

02



# Community waste management initiatives

- Godrej Consumer Products Ltd. has two major projects in Hyderabad and Guwahati to manage waste in the two municipalities. The wet waste will be turned into compost, the plastic waste will be recycled into granules, and the non-recyclable plastic waste will be converted into poly fuel through thermal depolymerisation. The project will also manufacture briquettes from other waste for use as a fuel.
- BPCL is associating with the Municipal Waste to Electricity Project of Kochi Municipal Corporation to convert solid municipal waste to electricity as part of urban waste management
- IndianOil has taken up a municipal solid waste-to-fuel project in Varanasi, wherein 10 decentralized plants of 5 tonnes per day capacity are being installed.
- Jindal Steel & Power Ltd. - Focussed on Developing and promoting use of waste through new applications such as Municipal solid waste processing to usable forms such as methane etc.

Solid Waste

**Waste  
to fuel**

03

# Community waste management initiatives

- National Fertilizers Ltd. City Compost -- markets 2660 MT of city compost sourced from manufacturers located in various states
- Rashtriya Chemicals & Fertilizers Ltd. - has initiated efforts for disposal of waste through composting. Composting is being carried out through pit method.
- DLF Ltd. - three decentralized waste management units are functional wherein organic waste is segregated and converted to manure which is then marketed.

Solid Waste

**Waste to  
compost**

04

# Community waste management initiatives

- Welspun India Ltd. - entered into a concession agreement with Anjar Nagar Palika (ANP) and Gandhidham- Adipur Nagar Palika (GNP) and is in the process of setting up a 30 MLD sewage treatment plant
- Mangalore Refinery And Petrochemicals Ltd. - improved its water foot print by enhancing intake of sewage treated water from City Corporation.
- Asian Paints Ltd. - Research and Technology Group, Ion Exchange, and the Sriperumbudur plant team initiated a pilot project for use of municipal sewage water in production. A trial load of 20 KL was processed, and four paint batches were produced using this water.
- Rashtriya Chemicals & Fertilizers Ltd. - is setting up another new Sewage Treatment Plant (STP) adjacent to the existing STP with a capacity to treat 22.75 Million Litres per Day (MLD) of Municipal Sewage to produce about 15 MLD of treated water. A portion of the treated water will be supplied to M/s Bharat Petroleum Corporation Ltd. (BPCL), on mutually agreed terms

Waste Water

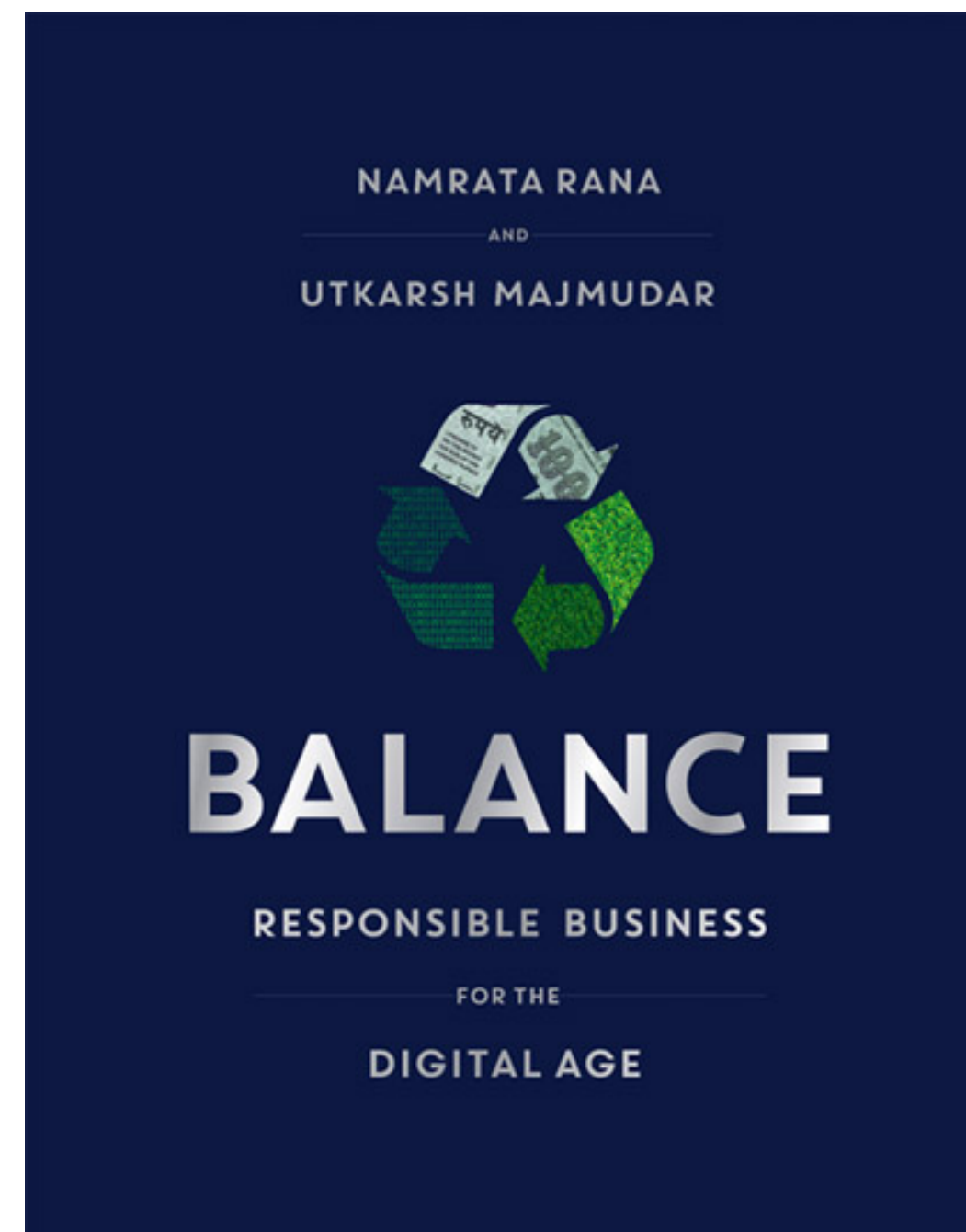
**Waste  
water  
treatment**

05

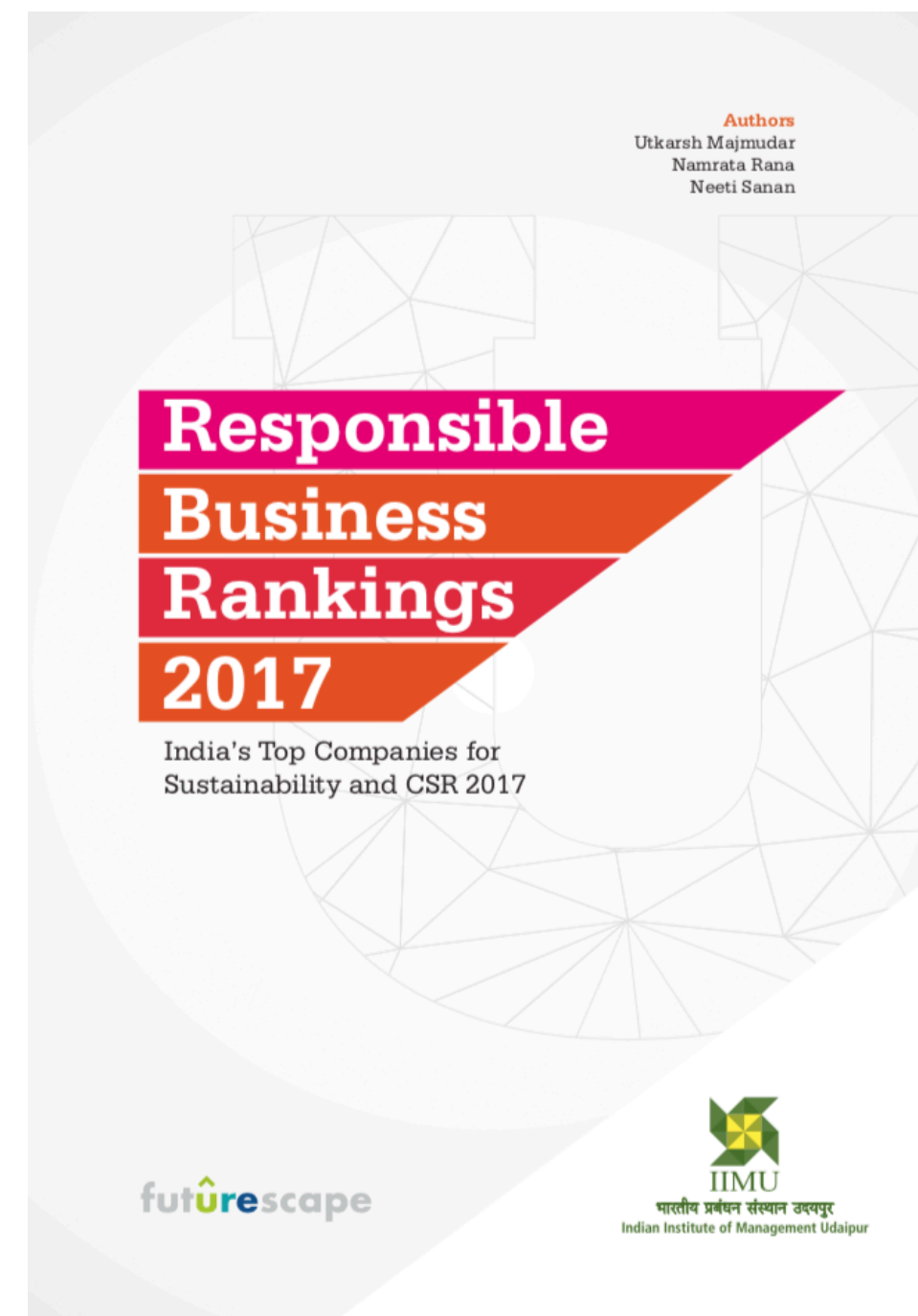


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