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How much plastic waste are we generating?

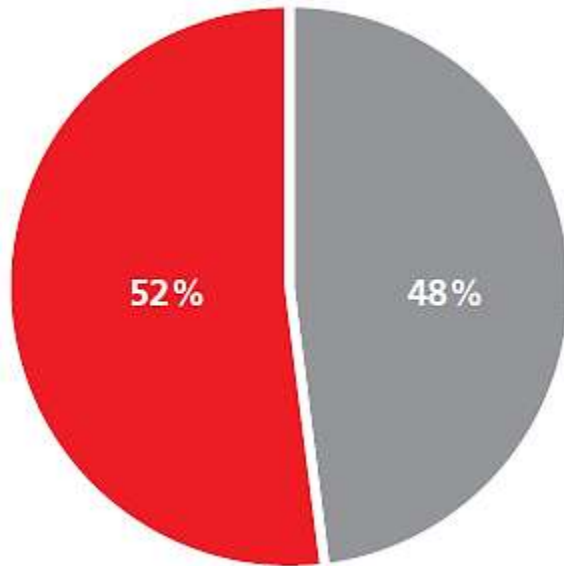
- *Assessment & Quantification of Plastic Waste generation in Major cities, 2015, CPCB.*

- Study conducted in 60 cities of India at their dumpsites.
- Data extrapolated
- 25,940 TPD of plastic waste
- **9.4 Million metric tonnes per annum**

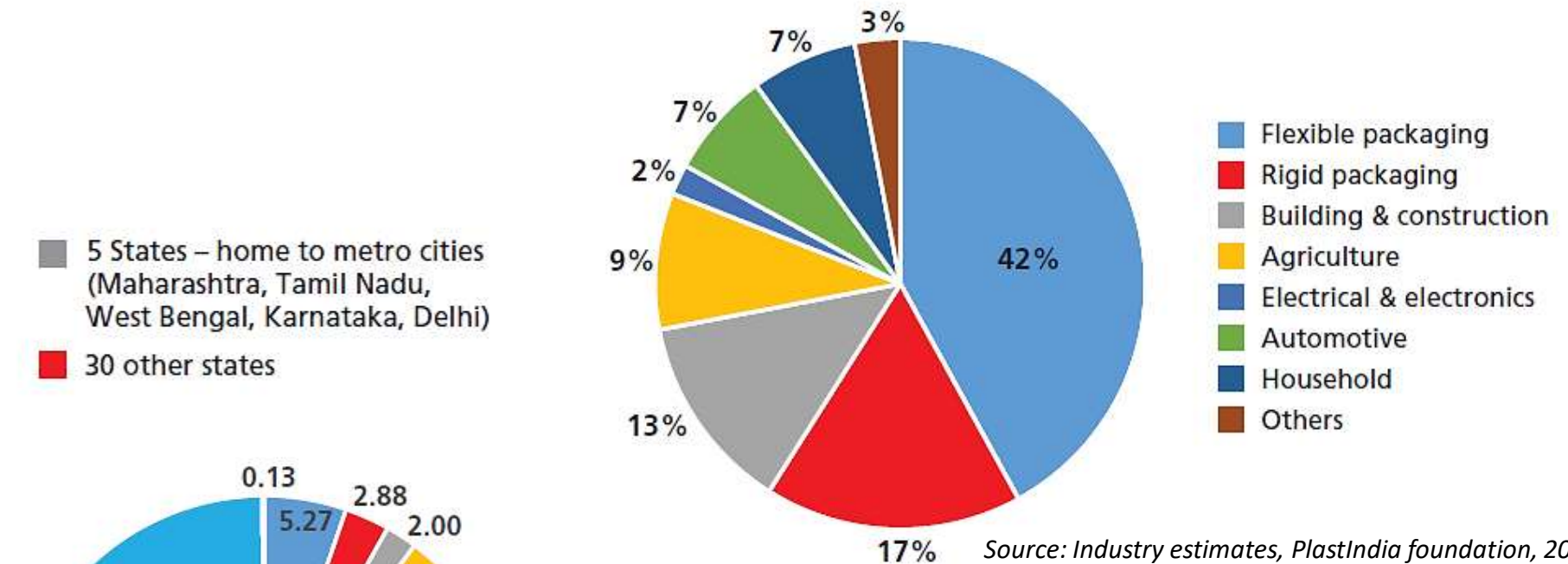
- *Annual report for Plastic Waste Management in India, 2018-19, CPCB.*

- All states and UT's reported Plastic waste generation for the first time.
- 9,200 TPD of plastic waste
- **3.3 Million metric tonnes per annum**

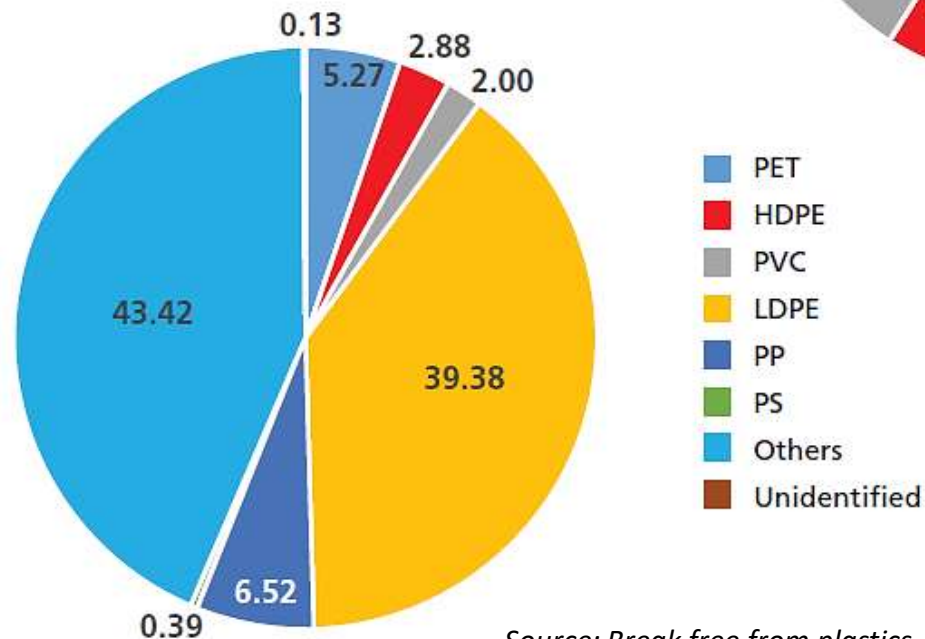
What are the sources of plastic waste?



Source: CPCB Annual report, 2018-19

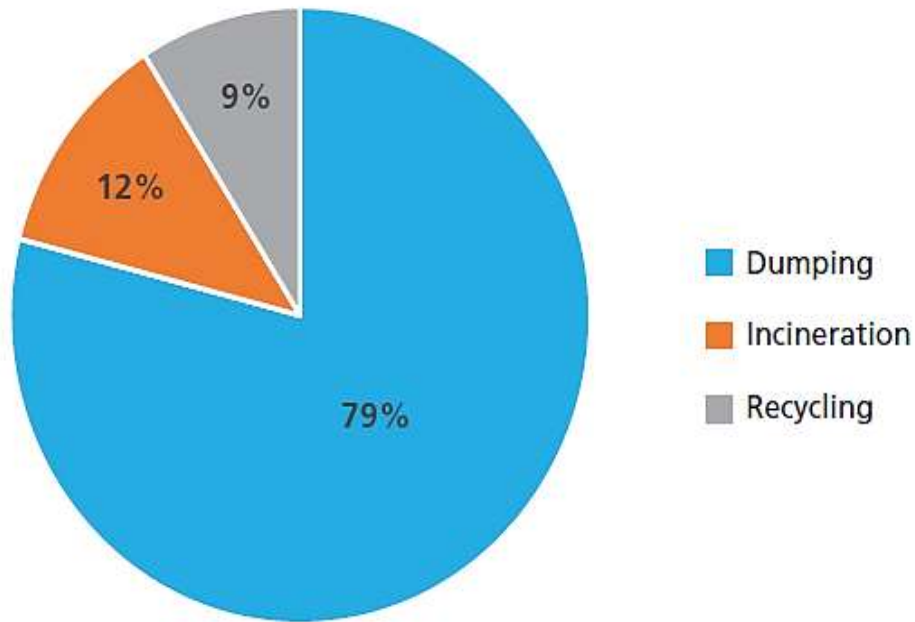


Source: Industry estimates, PlastIndia foundation, 2019

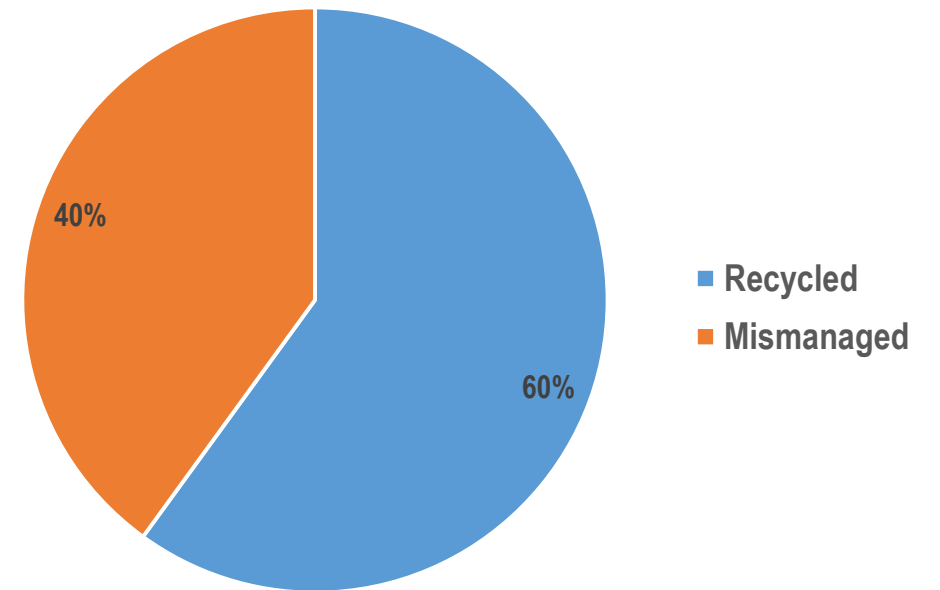


Source: Break free from plastics, India database for 2020

Fates of plastic waste- Global & Indian scenario.

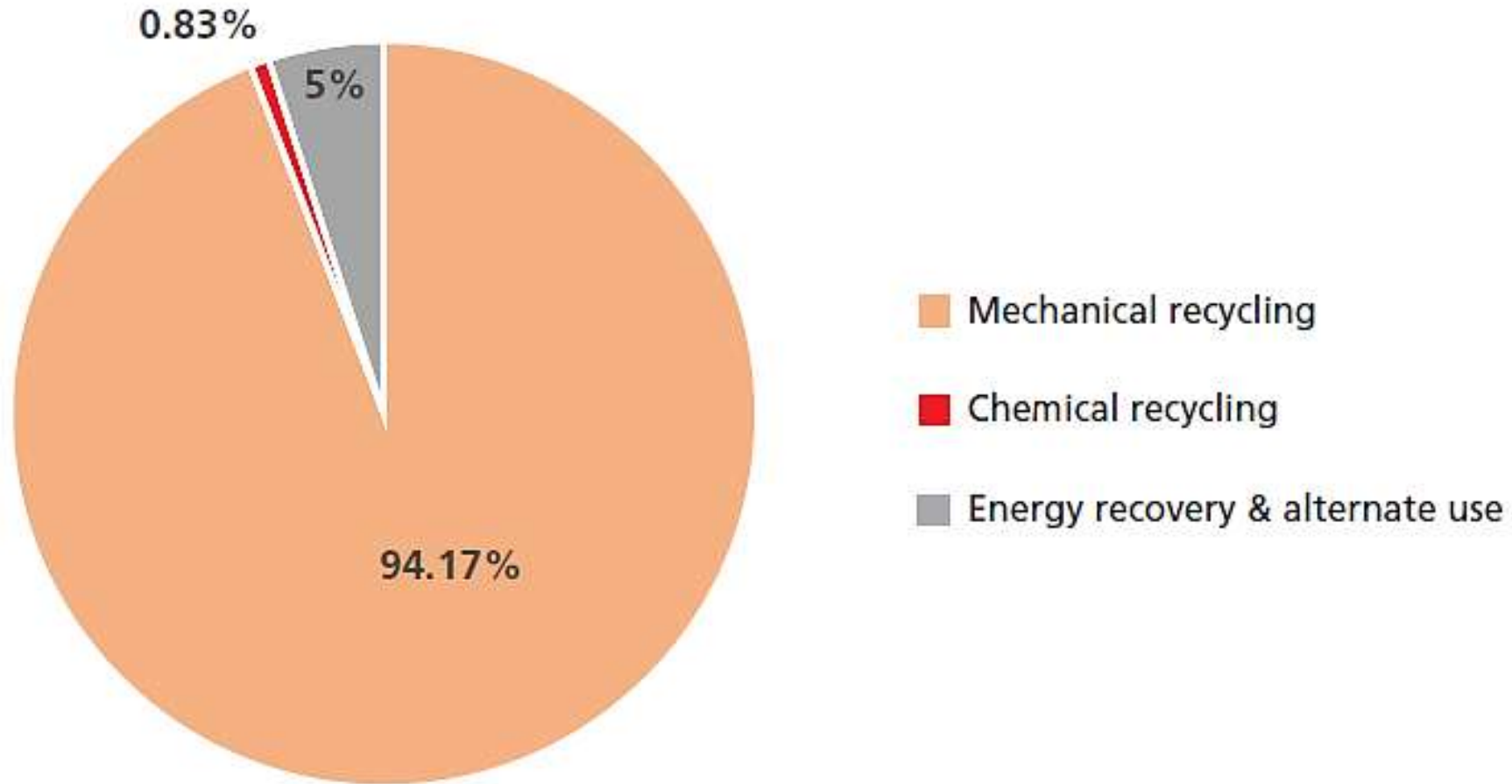


Source: Ronald Geyer et al 2017. "Production, use, and fate of all plastics ever made." *Science Advances* Vol. 3 No. 7.



Source: MoHUA, 2019

Types of recycling in India



Source: Industry estimates, 2019

What is the true meaning of recycling?

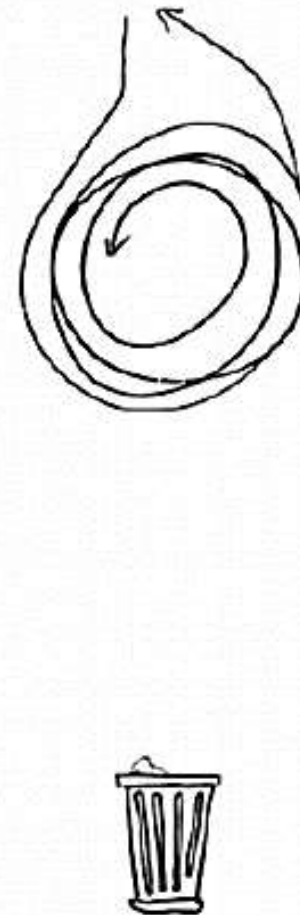
LINEAR ECONOMY



RECYCLING ECONOMY



CIRCULAR ECONOMY

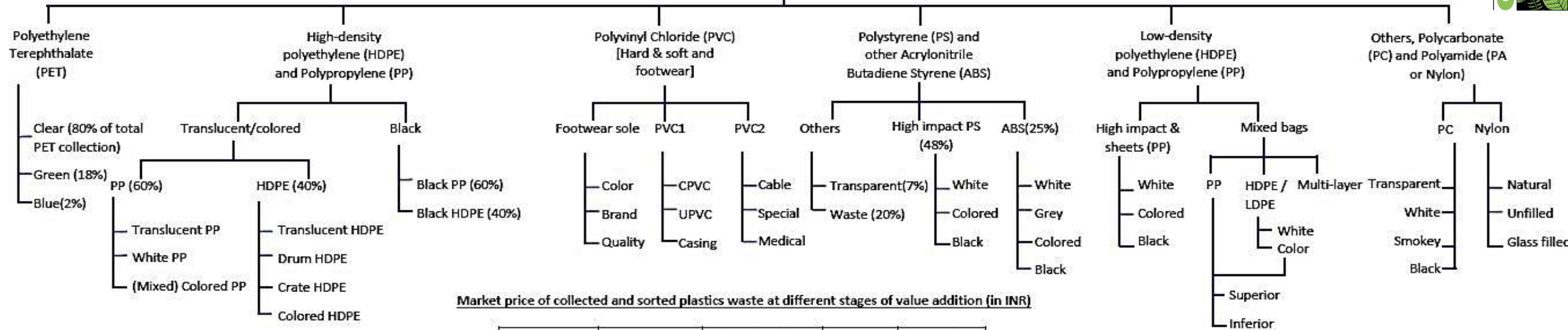


Who recycles our plastic waste?

Parameter	2018 report	2019 report	Percentage growth
Number of organized recycling units	3500	100	-97%
Number of unorganized recycling units	4000	10,000	60%
Direct manpower	600,000	100,000	-83%
Indirect manpower (including waste pickers)	1 million	1–1.5 million	50% (considering upper limit)
Quantum of plastic recycled	5.5 million metric tonnes	6 million metric tonnes	8.3%

Source: PlastIndia Foundation

Plastics that are interest of Rag/waste pickers in (Northern) India, and its segregation types (52 types)



Market price of collected and sorted plastics waste at different stages of value addition (in INR)

Material Type ↓	Value Addition Steps →	As picked up from the streets – Base price	Shredding & Flaking	Aggregation / Washing / Pelletization
PET		27	39	58 (65*)
PP	Colored	13	45	65
	Mixed color	13	27	45
	White (Milky)	13	50	68
	Translucent	13	71	90
	Black	13	25	40
HDPE	Crate	13	48	70
	Drum	13	55	80
	Translucent	13	51	75
	Colored	13	45	67
ABS	White (Milky)	35	50	70
	Colored	30	45	65
	Grey	25	35	55
	Black	22	38	58
High-Impact PS	White (Milky)	30	48	65
	Colored	30	38	52
	Black	30	35	48
	Transparent	50	70	95

*If spooled for fiber making

Material Type ↓	Value Addition Steps →	As picked up from the streets – Base price	Shredding & Flaking	Aggregation / Washing / Pelletization
PVC Footwear sole	Teliya	15	22	52
	Super Teliya	20	26	56
	Brown	22	29	62
	first	28	34	65
	Bata	22	29	61
	Black Airmax	20	26	59
	Yellow Airmax	34	40	72
	Gumboots	20	26	55
	Bailey	20	25	57
PVC1	UPVC	40	55	68
	CPVC	35	50	60
	Casings	30	45	58
	Light Grey	35	50	62
	Dark Grey	32	45	60
	Black1	32	45	60
	Black2	20	35	48
Polycarbonate	Transparent	80	95	120
	White	65	78	100
	Smokey	60	73	90
	Black	40	52	75
Nylon	Natural	35	56	100
	Unfilled	25	43	80
	Glass filled	20	37	70

Material Type ↓	Value Addition Steps →	As picked up from the streets – Base price	Further sorting	Cleaning & dusting	Aggregation / Washing / Pelletization
PVC2	Cable	18	27		45
	Special	19	26		45
	Tubings	20	35		45
High-Impact PP	White	25		35	60
	Color	16		25	36
	Black	14		24	35
Bags	White & Translucent	23		32	45
	Color Superior PE	20		28	43
	Color Inferior PE	18		24	36
	Color Superior PP	21		30	42
	Color Inferior PP	18		25	36

Source: Siddharth Ghanshyam Singh 2021. Plastic Recycling: Decoded. Centre for Science and Environment, New Delhi.

Visualization: Mouli Venkatesan; mouli_12@yahoo.com

Thank you!