

**State of Vermont**  
**Senate Natural Resources and Energy**  
**Committee**

**Susan V. Collins, President**  
**Container Recycling Institute**

**March 16, 2022**



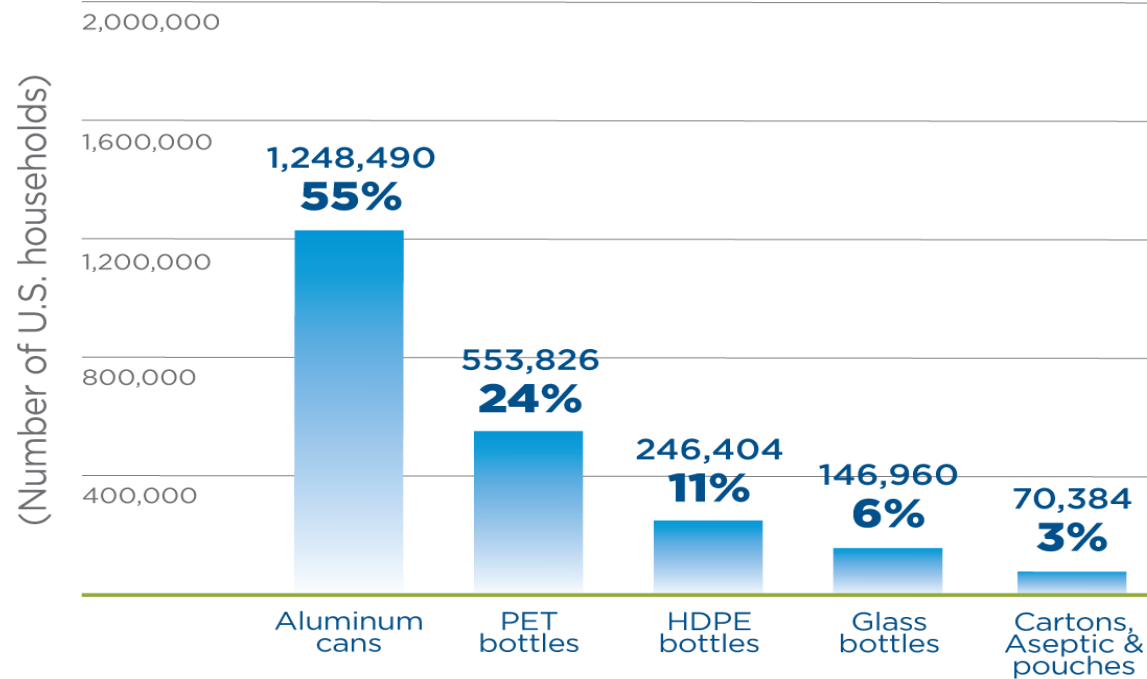


# Energy Impacts of Wasting

- In total, about **2.3 million American homes** could have **all their energy needs met** (heating & cooling, cooking, utilities, etc.) with the amount of energy required to replace the beverage containers wasted in 2010.

## Energy Required to Replace Wasted Beverage Containers, 2010

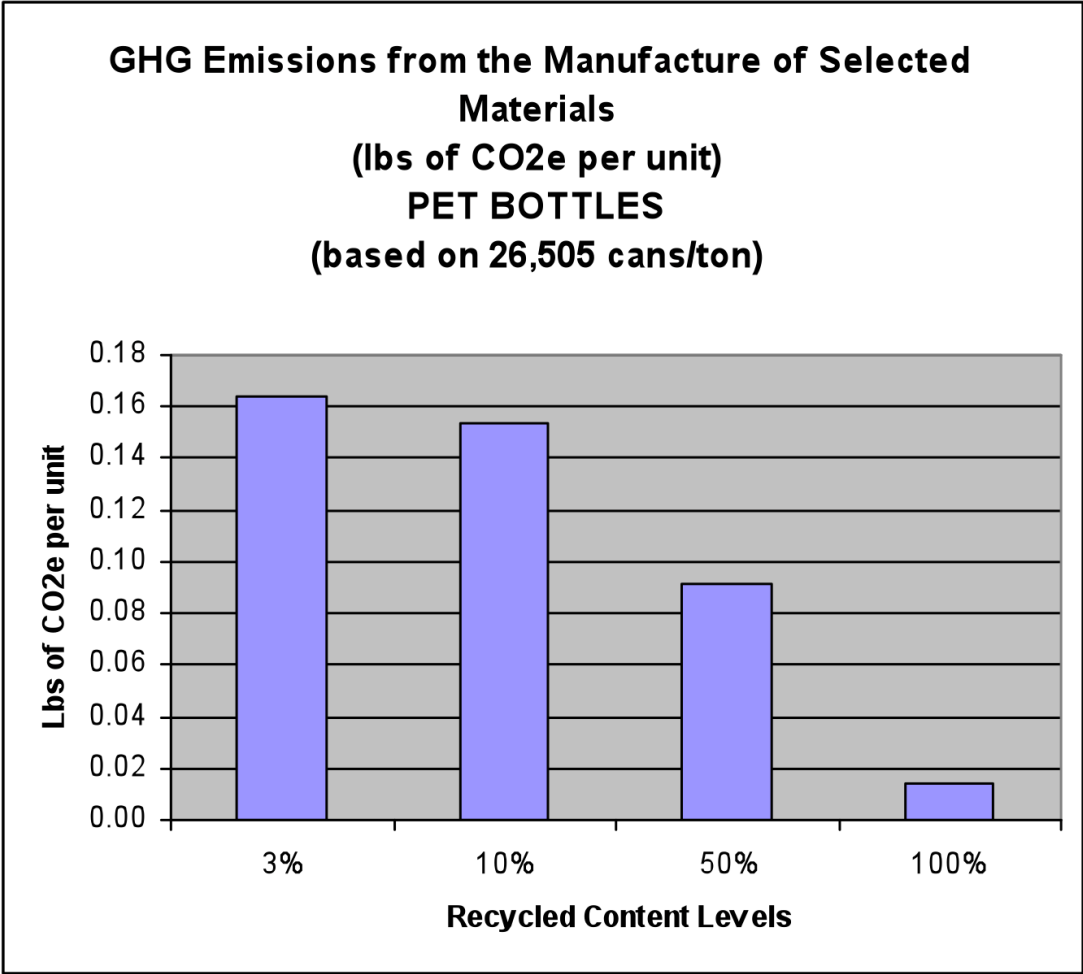
(in U.S. household equivalents)



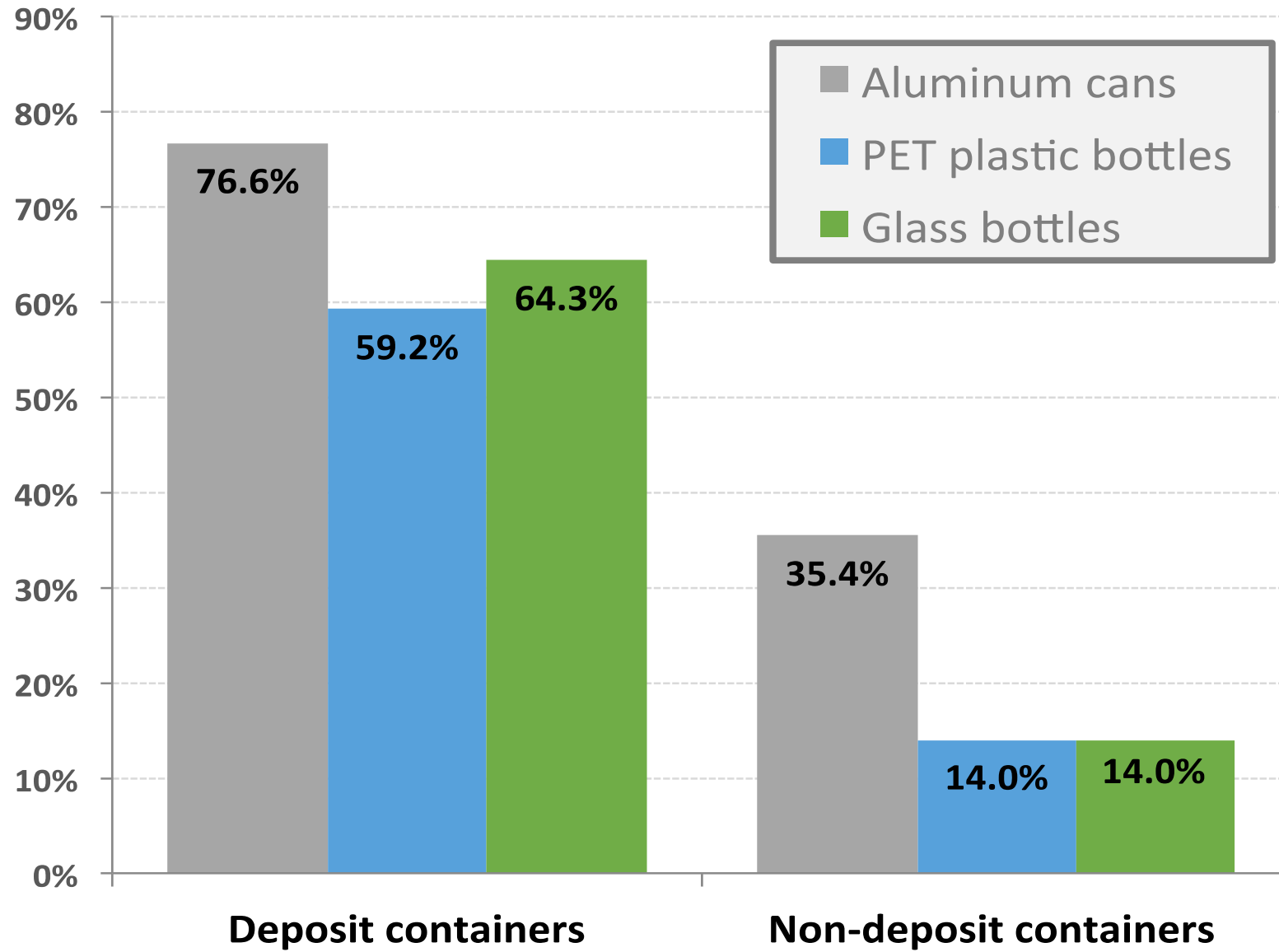
Assumes 89.6 MBtu per household per year. See further notes and sources in Appendix B.

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# Recycled Content for PET Bottles: 3%, 10%, 50% and 100%



# U.S. Recycling Rates by Deposit Status, 2017



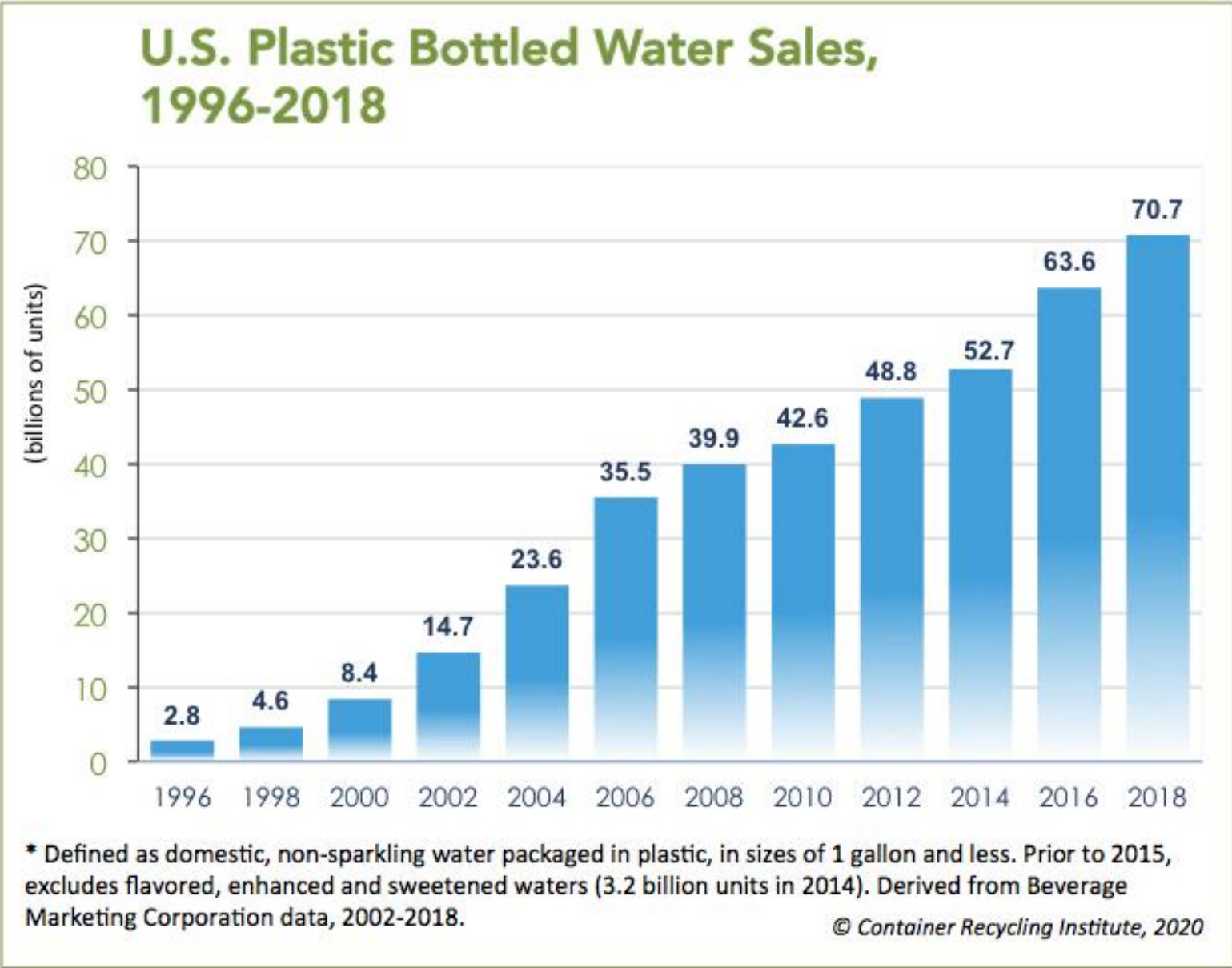
Source: "2017 Beverage Market Data Analysis," Container Recycling Institute, 2019. *This graph is copyrighted, and is not to be shared, copied, or reproduced in any manner without written permission from CRI.*

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# Recycled PET Content in Bottles (1996 - 2020)



# PET plastic water bottles are *the* primary source of beverage sales growth



# Differences Between Deposit PET and Curbside PET (on average)

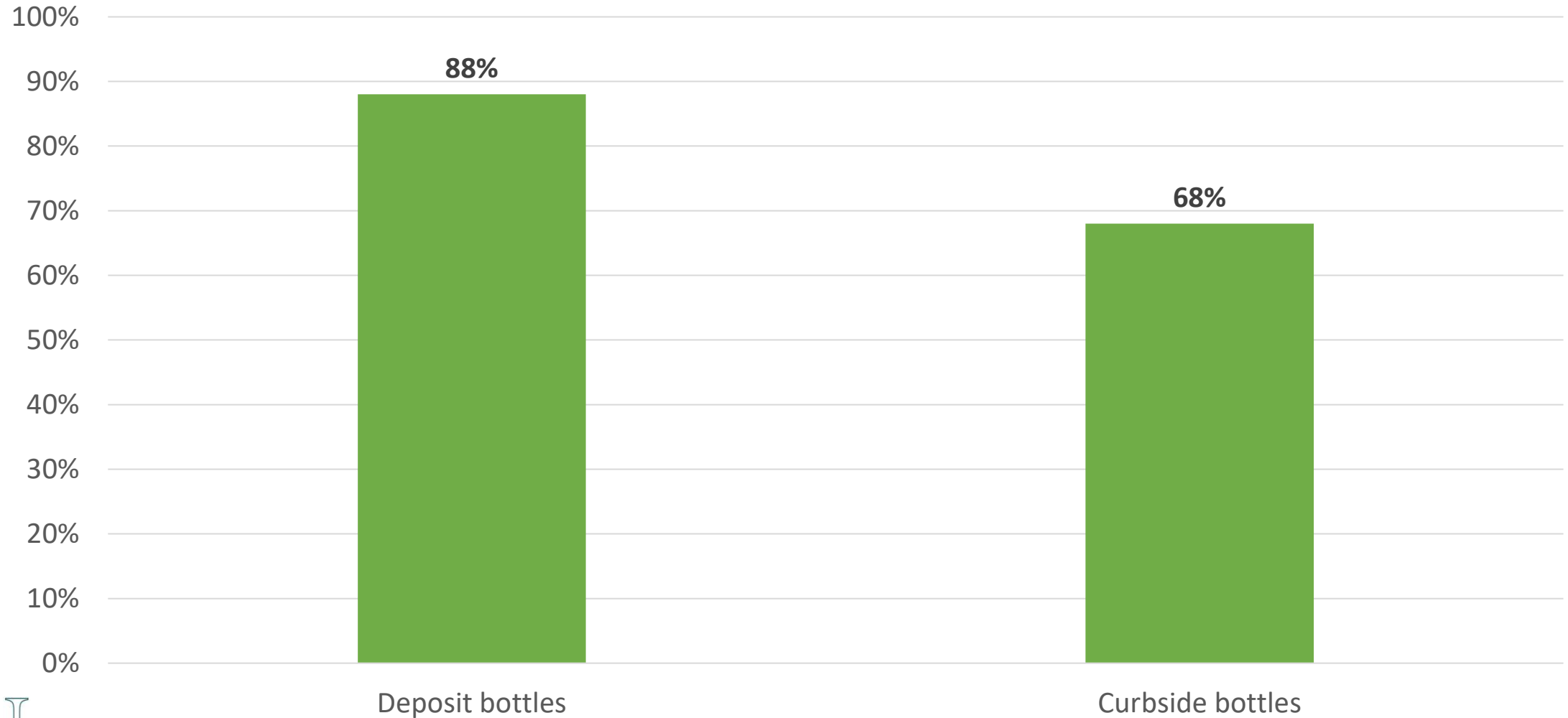
Metric	Deposit PET	Curbside PET
Processing Facility (extra transportation costs)	Facilities in MA & NY	Most plants that handle curbside PET are in the South
Pricing	Baseline deposit price	Worth 40% less than deposit baseline price (5-year average)
Percent Contamination + non-usable PET, other	85% production rate (NAPCOR/APR, 2017)	66% production rate (NAPCOR/APR, 2017)
Extra costs due to contamination	Minimal	Costs of transporting contaminants, extra cleaning costs and costs of disposing of contaminants
Product Use Potential	Food & beverage bottles, other food containers, many other uses	Fiber, carpet, strapping, etc.



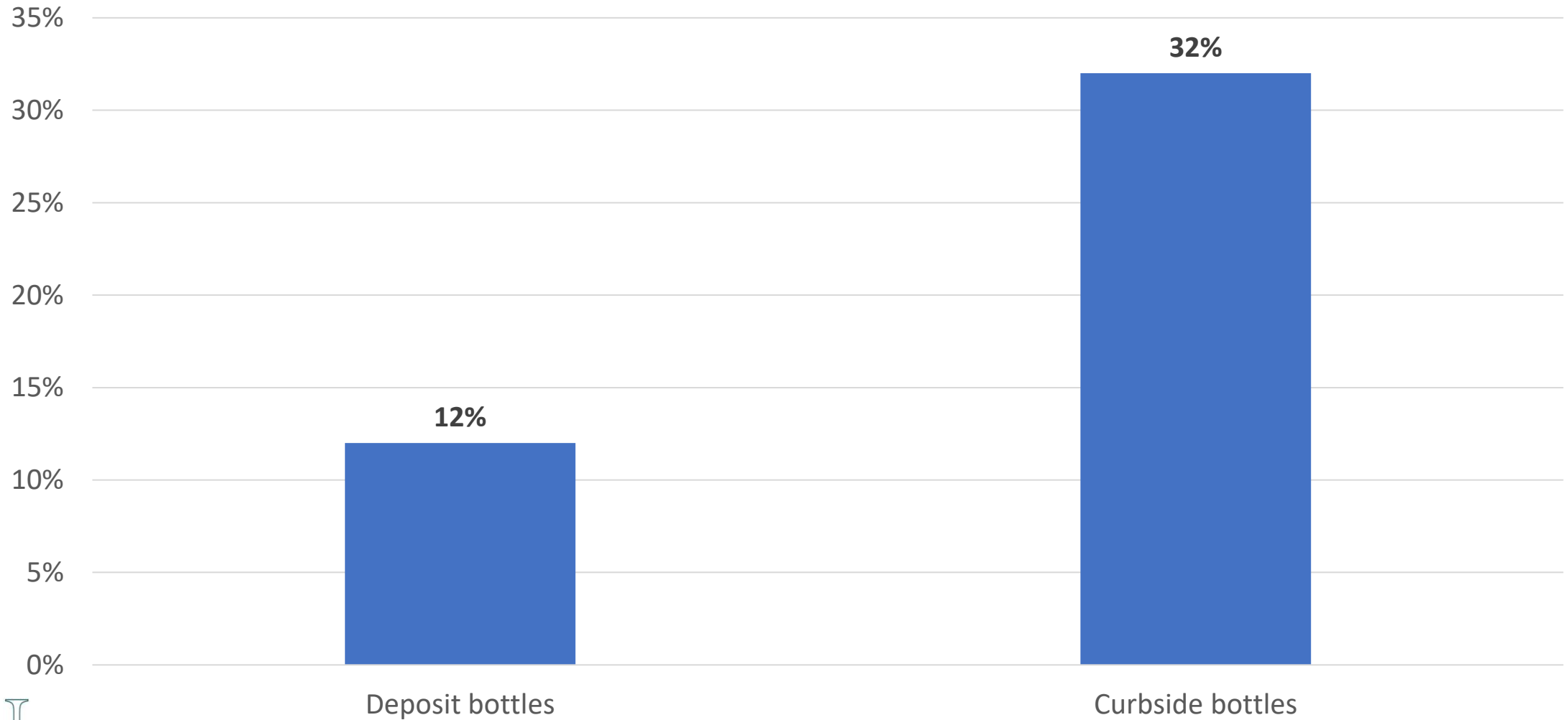
# Recycling Rate Calculations for Deposit Material and Non-Deposit Material (tons)

	<b>“Containers” from 2018 DSM report, Table E.2.</b>	<b>Bottle Bill Containers</b>	<b>Remainder = NON Bottle Bill Containers</b>	<b>Reassign 6,000 tons of glass disposed in a closed landfill in 2018 for Corrected Calculation of Recycling Rate of non-Bottle Bill Containers</b>
Disposed	18,137	3,069	15,068	21,068
Recycled	36,183	18,096	18,087	12,087
Total	54,320	21,165	33,155	33,155
Recycling Rate	67%	86%	55%	36%
Sources	2018 DSM report, Table E.2	Disposal from 2018 report, Table 12; Recycling from 3/4/13 DSM report	Calculated from 2 previous columns	Calculated

## rPET Generation Rate\* (%) by Collection Source



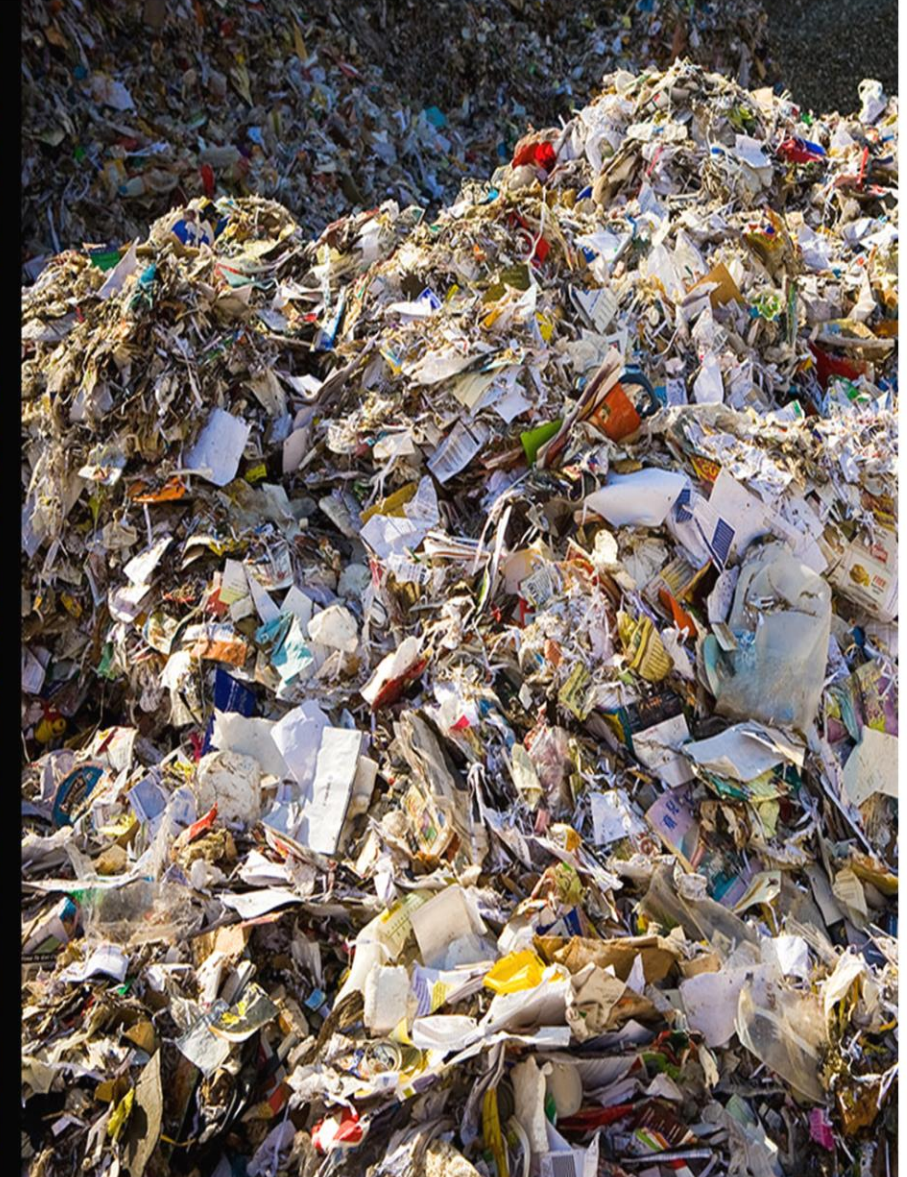
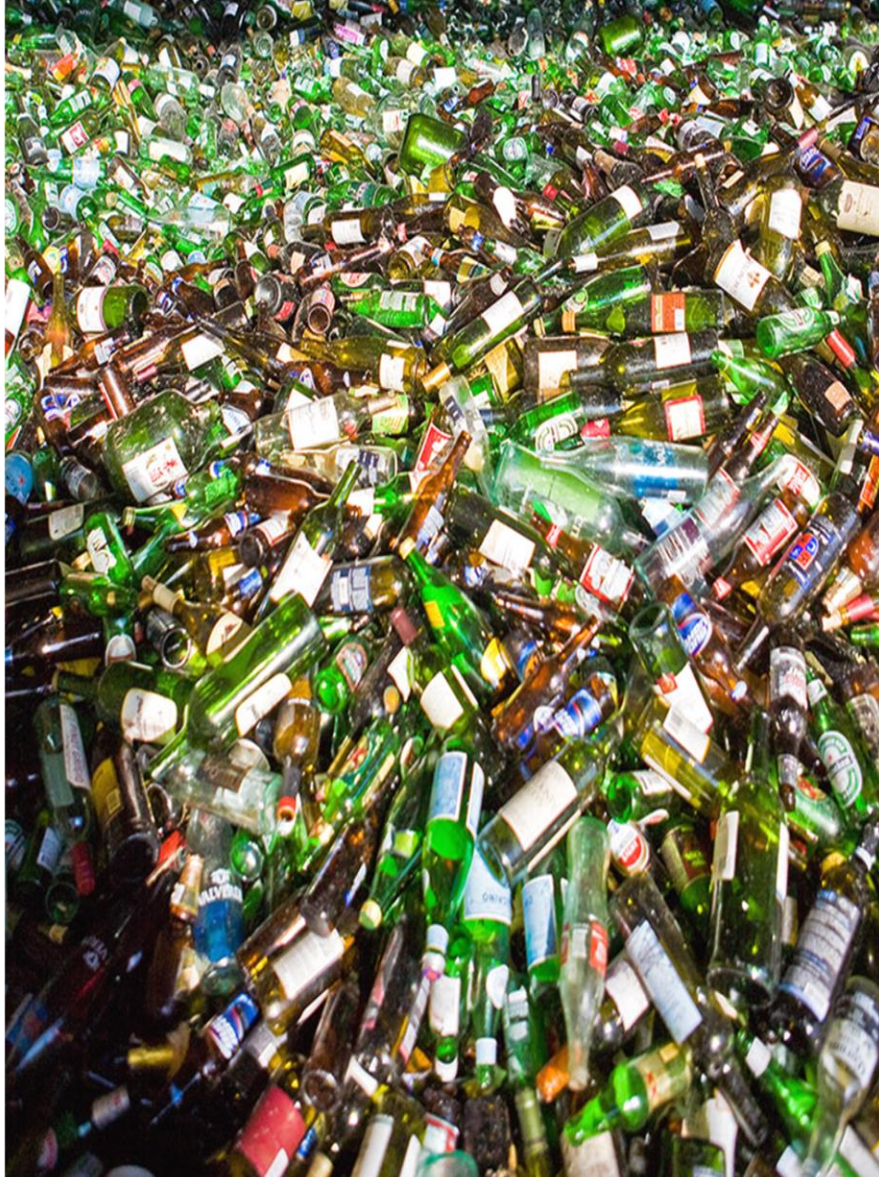
## Production Loss (%) of PET Flake Material Based on Collection Type



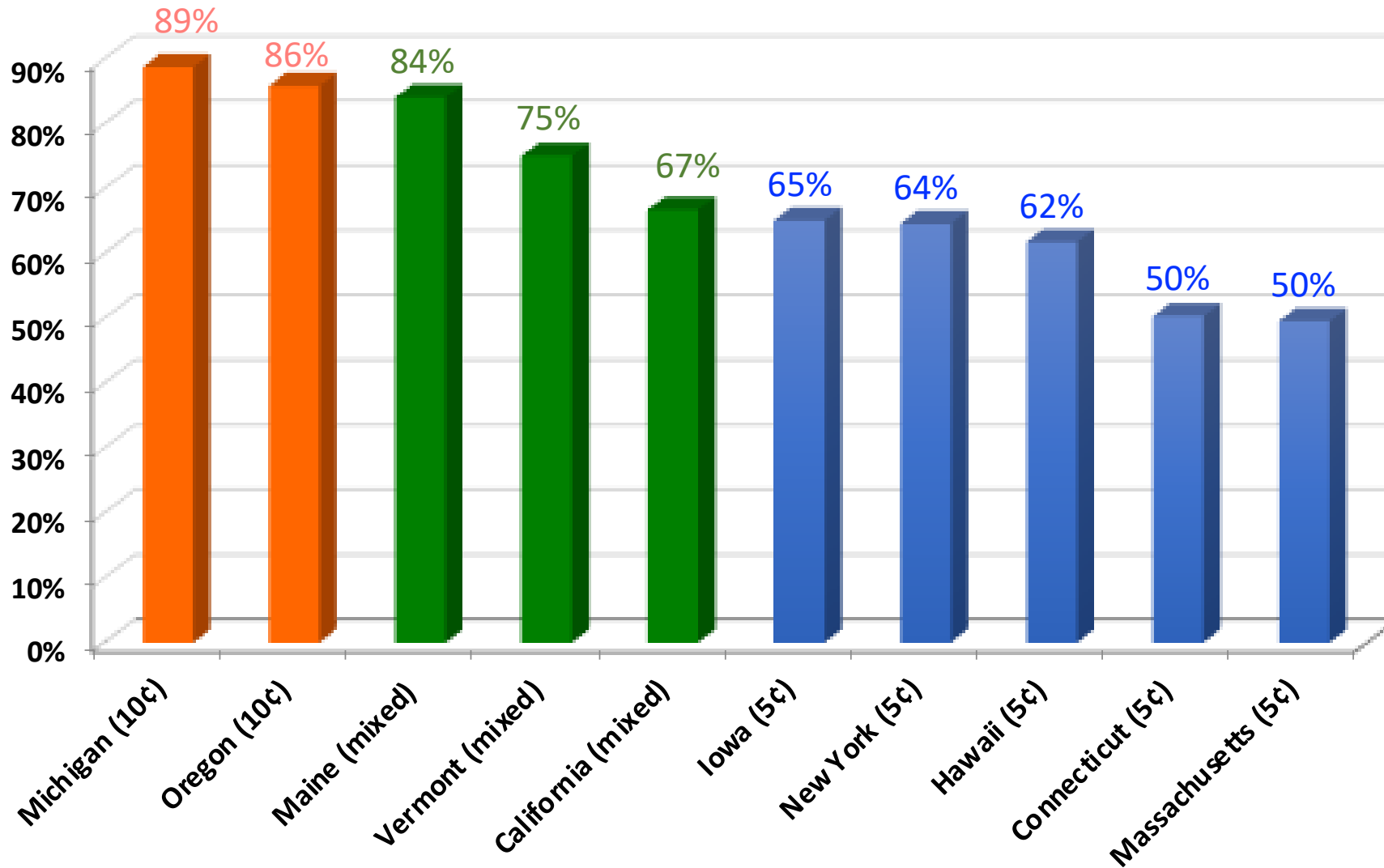
“The convenience of **mixed collection** of materials increases consumer participation, but also increases overall contamination of the various materials collected. This makes the material **more challenging** for a recycler to process, but especially for any plastic recycler that is trying **to make a recycled plastic for food-contact applications.**”



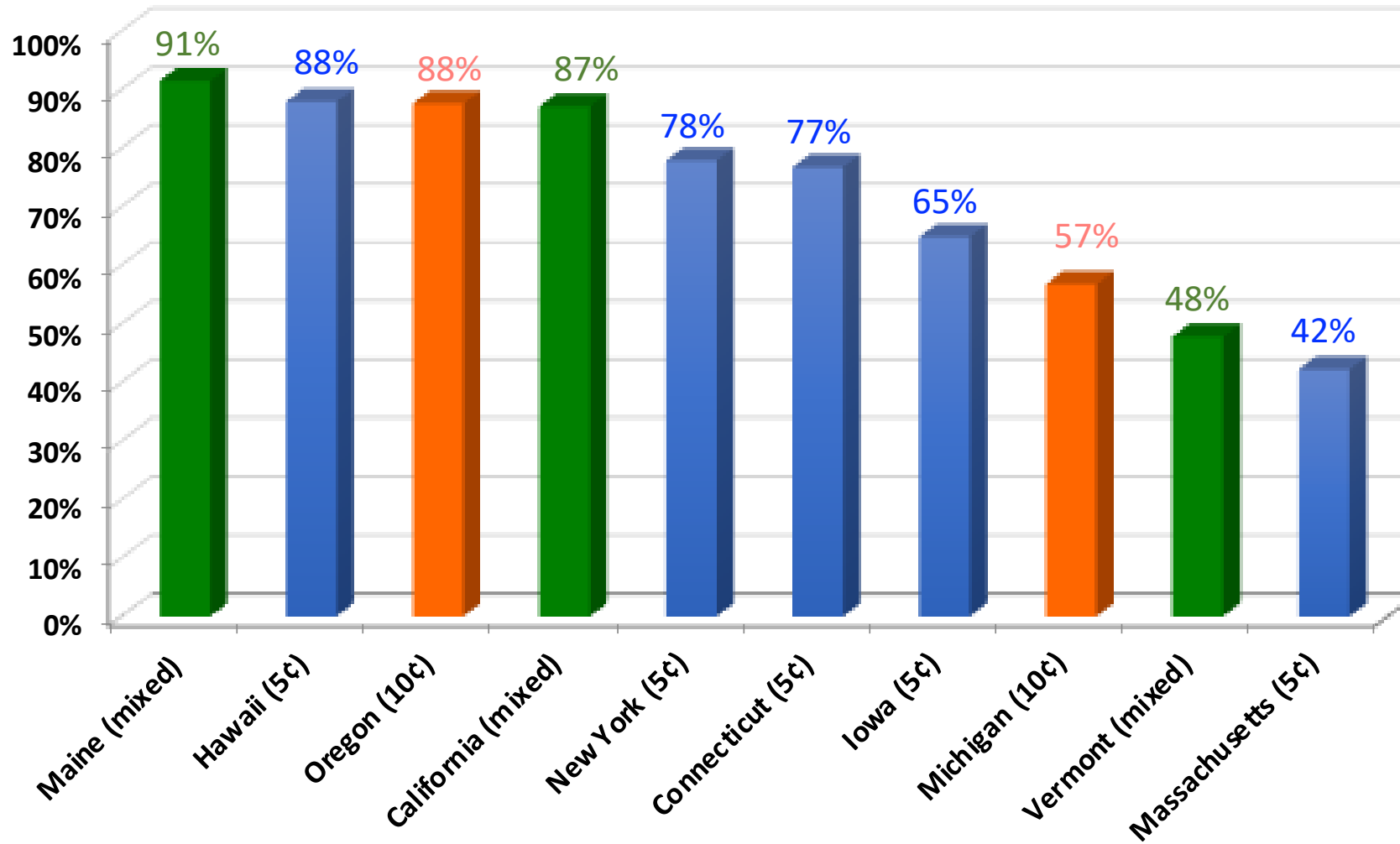
# Glass: Deposit vs. Single Stream



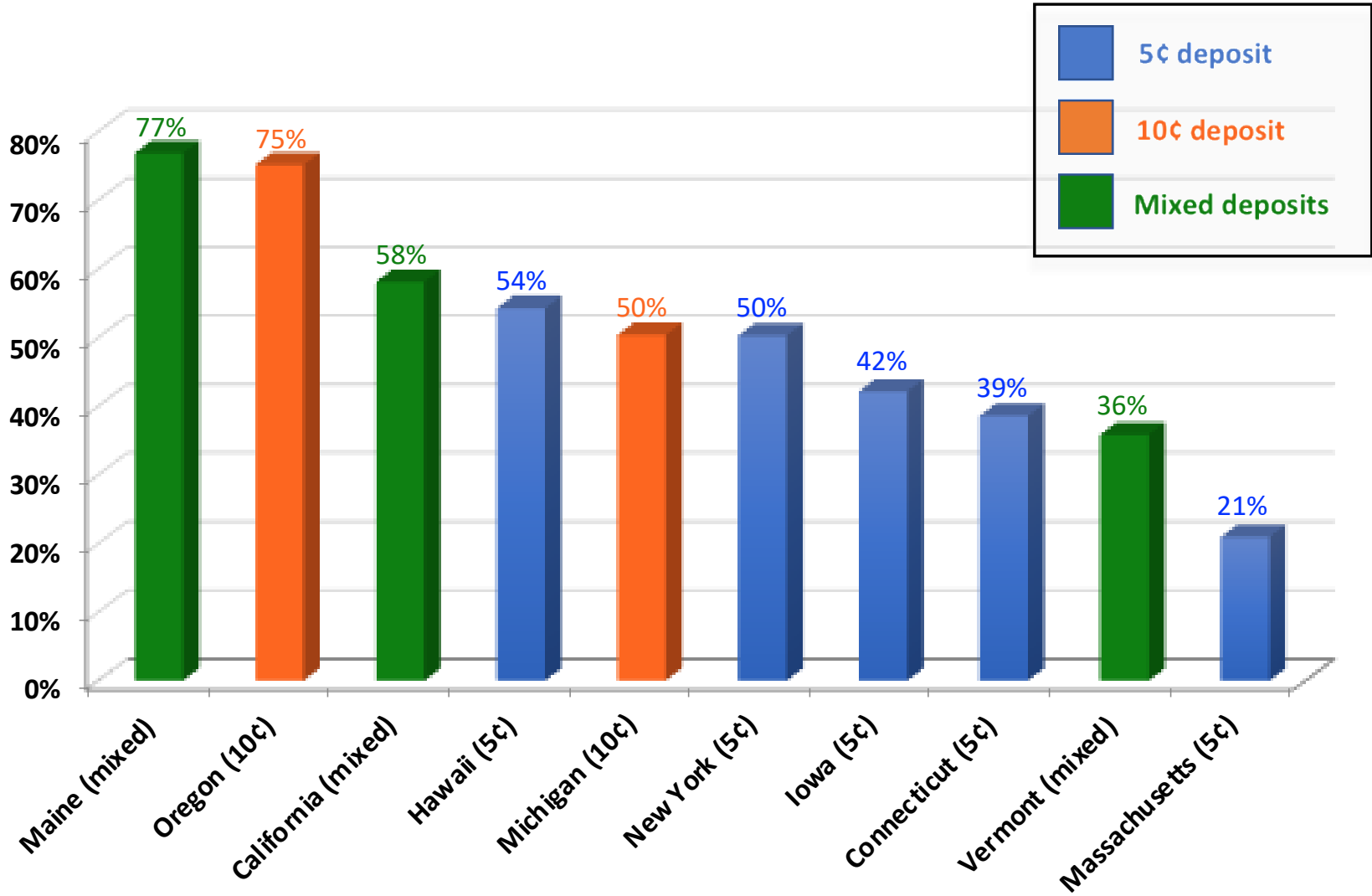
# Redemption Rates for U.S. Deposit States, 2019



# Percent of U.S. Beverage Units Covered by Deposits, 2019



# Percent of U.S. Beverage Units Captured by Deposit Redemption, 2019



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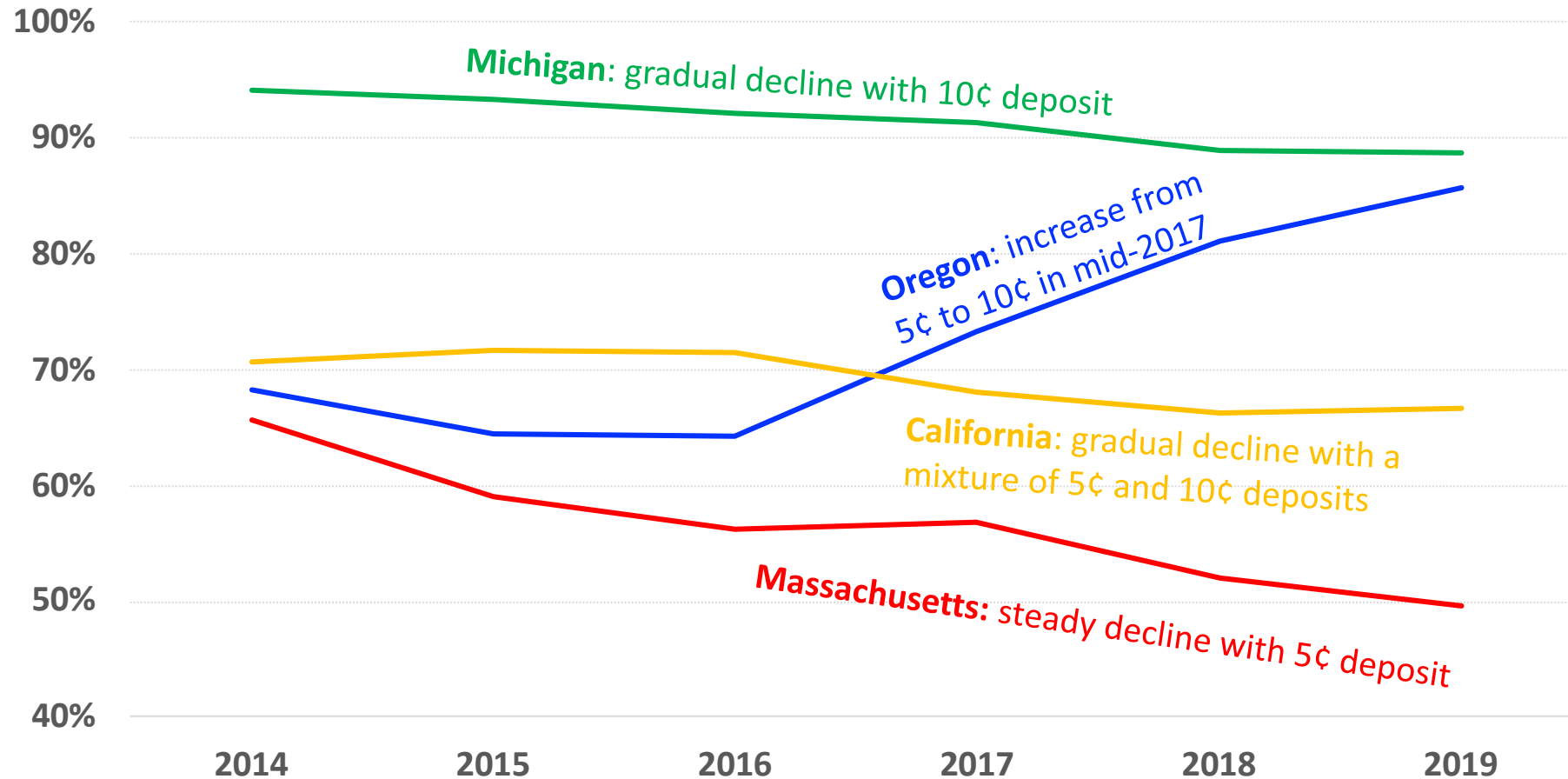


## U.S. States & Canadian Provinces with Deposits of ≥ 10¢, and/or Expanded Beverages

Location	Carbonated	Non-carbonated	Wine	Spirits (Liquor)	10¢ deposit adoption
California	5¢, 10¢	5¢, 10¢	X	X	2007
Oregon	10¢	10¢	under discussion	under discussion	2017
Michigan	10¢	X	X	X	1978
Maine	5¢	5¢	15¢	15¢	X
Iowa	5¢	X	5¢	5¢	X
<b>Vermont</b>	<b>5¢</b>	<b>X</b>	<b>X</b>	<b>15¢</b>	<b>X</b>
British Columbia	10¢	10¢	10¢	10¢	2020
Alberta	10¢, 25¢	10¢, 25¢	10¢, 25¢	10¢, 25¢	2008
Quebec	10¢	10¢	25¢	25¢	2022
Saskatchewan	10¢ - 40¢	10¢ - 40¢	10¢ - 40¢	10¢ - 40¢	1992
Yukon Territories	10¢ - 35¢	10¢ - 35¢	10¢ - 35¢	10¢	1992

For more detail on U.S. states, see [Bottlebill.org](http://Bottlebill.org), and for Canadian provinces, see “Who Pays What: an Analysis of Beverage Container Collection and Costs in Canada.” CM Consulting, Nov. 2020.

# Redemption rate changes in selected deposit states, 2014-2019

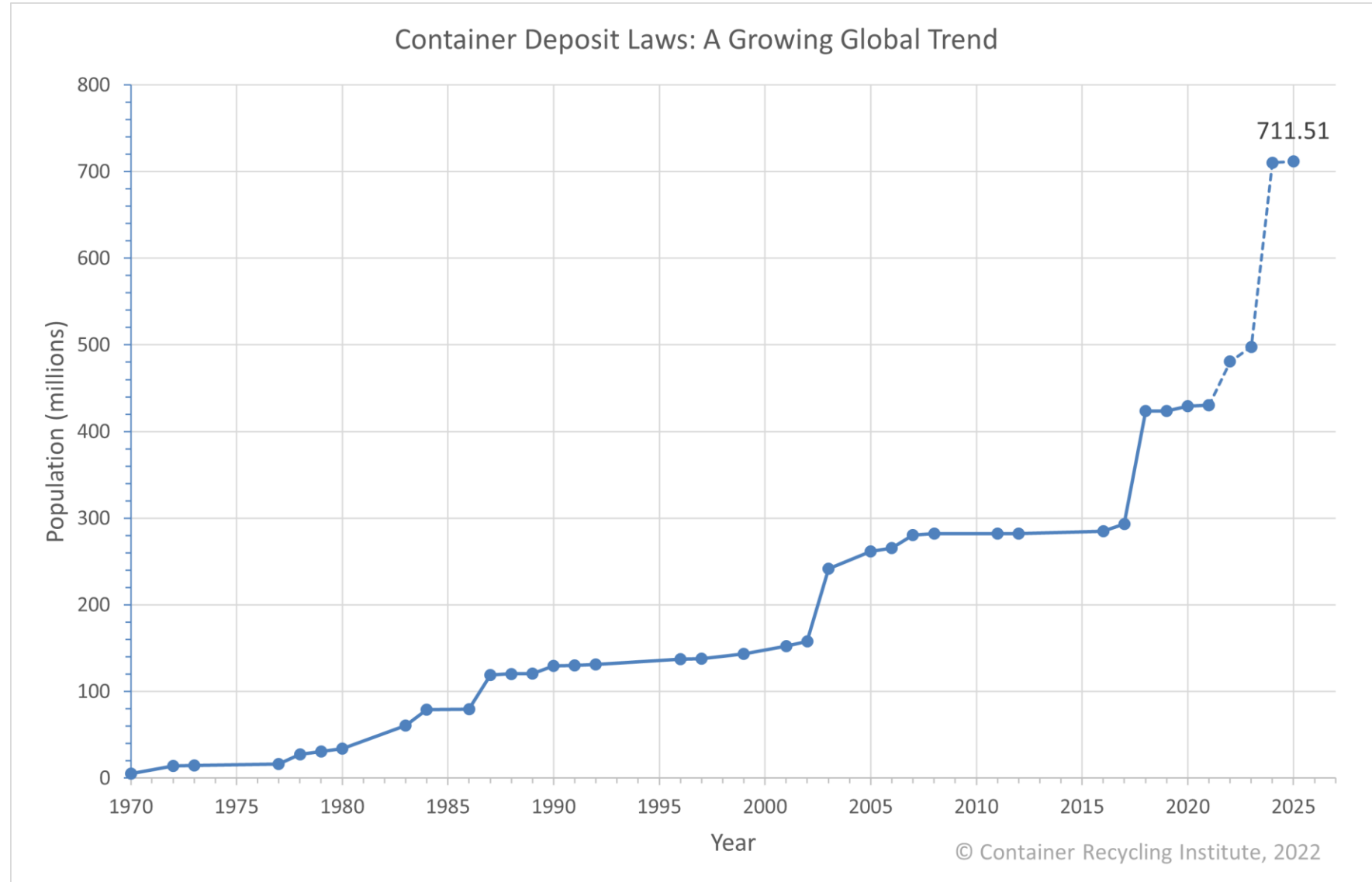


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## New Container Deposit Laws Enacted for 351 Million Since 2017

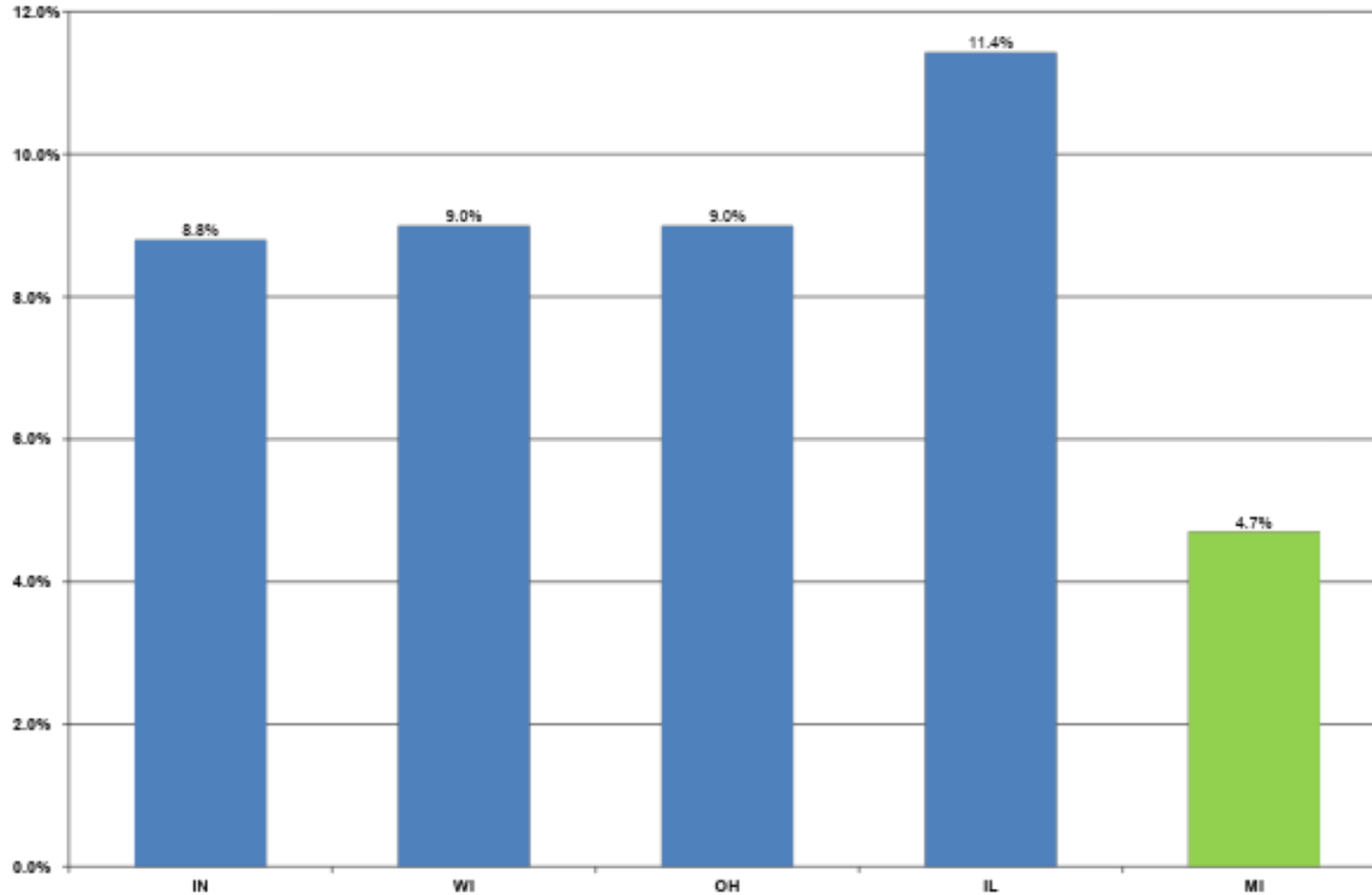
Region	Year Passed	Year Implemented	2018 Population (millions)
New South Wales, Australia	2016	2017	7.9
ACT - Canberra	2017	2018	0.4
Queensland	2017	2018	2.7
Maharashtra, India	2018	2018	121.4
Malta	2018	2019	0.4
Western Australia	2018	2020	2.7
Jamaica	2019	2020	2.9
Latvia	2018	2020	1.9
Slovakia	2019	2020	5.4
United Kingdom	2018	2021	66.6
Romania	2018	2022	19.6
Turkey	2018	2022	81.9
Portugal	2018	2022	10.3
Tasmania	2019	2022	0.5
New Zealand	2019	2022	4.8
Belarus	2020		9.5
Victoria, Australia	2020	2023	6.4
Singapore	2020	2022	5.9
<b>Total</b>			<b>351.2</b>

Existing and new laws will serve more than **700 million** people



# Deposits Reduce Beverage Container Litter – Great Lakes

Beverage containers as a percentage of all beach litter in five States



# Keep America Beautiful 2020 National Litter Study

“...There was substantially **more deposit-material litter per capita in non-bottle bill states** than in bottle bill states, by a difference of a **two-to-one ratio.**”