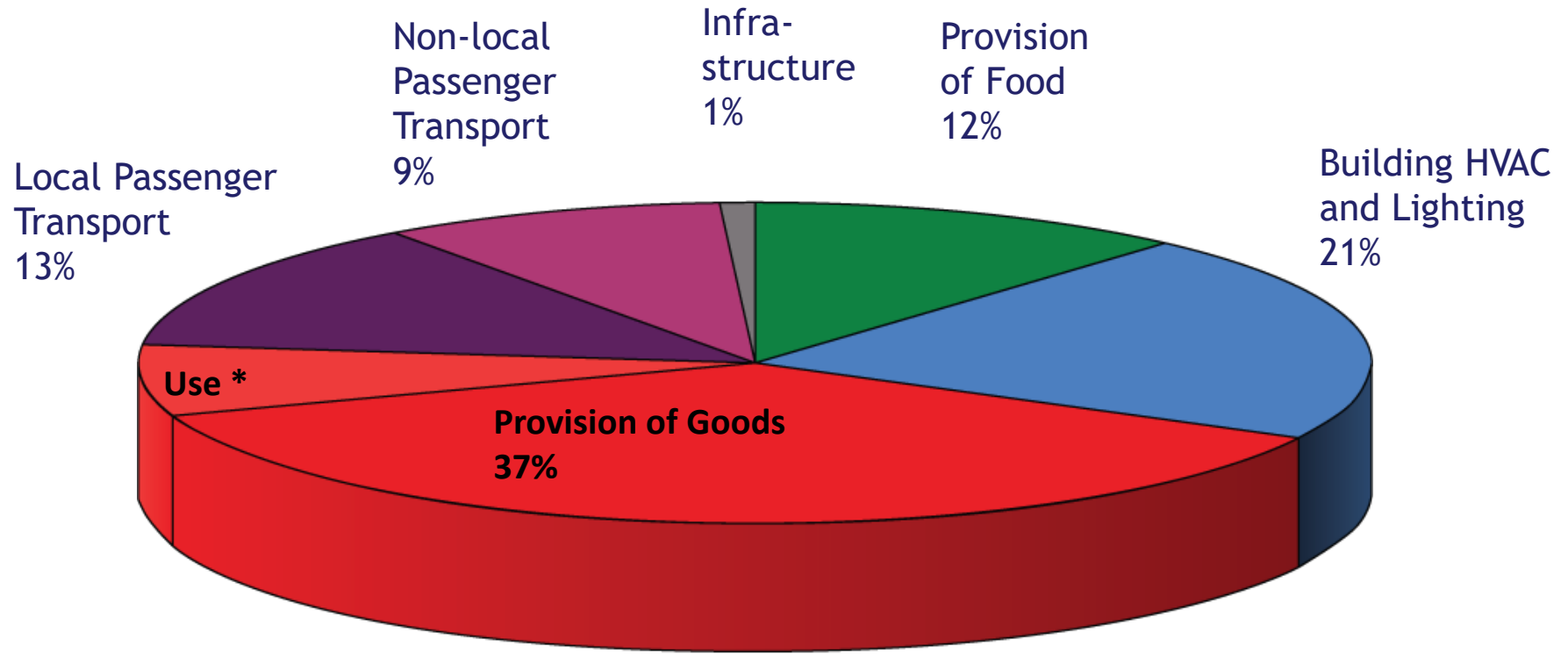


State of Vermont
House Committee on Natural Resource,
Fish and Wildlife

Container Recycling Institute
February 24, 2021



US Greenhouse Gas Emissions Consumption View - Global



Products & Packaging
44%

* Use of Appliances
and Devices
7%

Source: PPI 2009 – Joshua Stolaroff

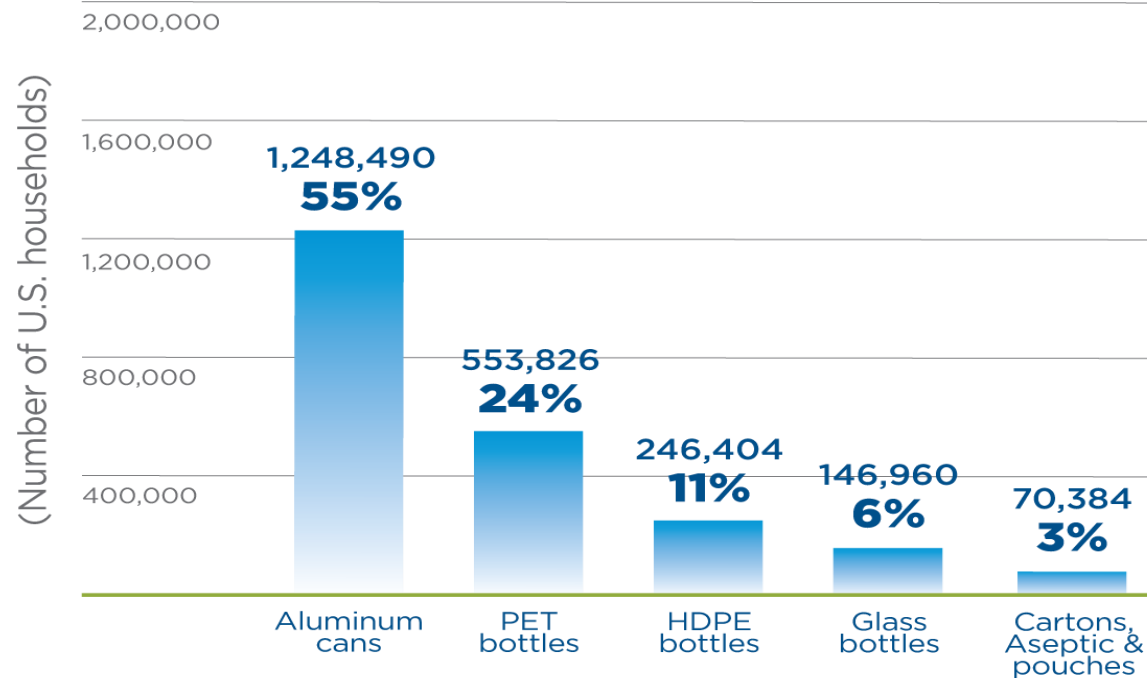


Energy Impacts of Wasting

- 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

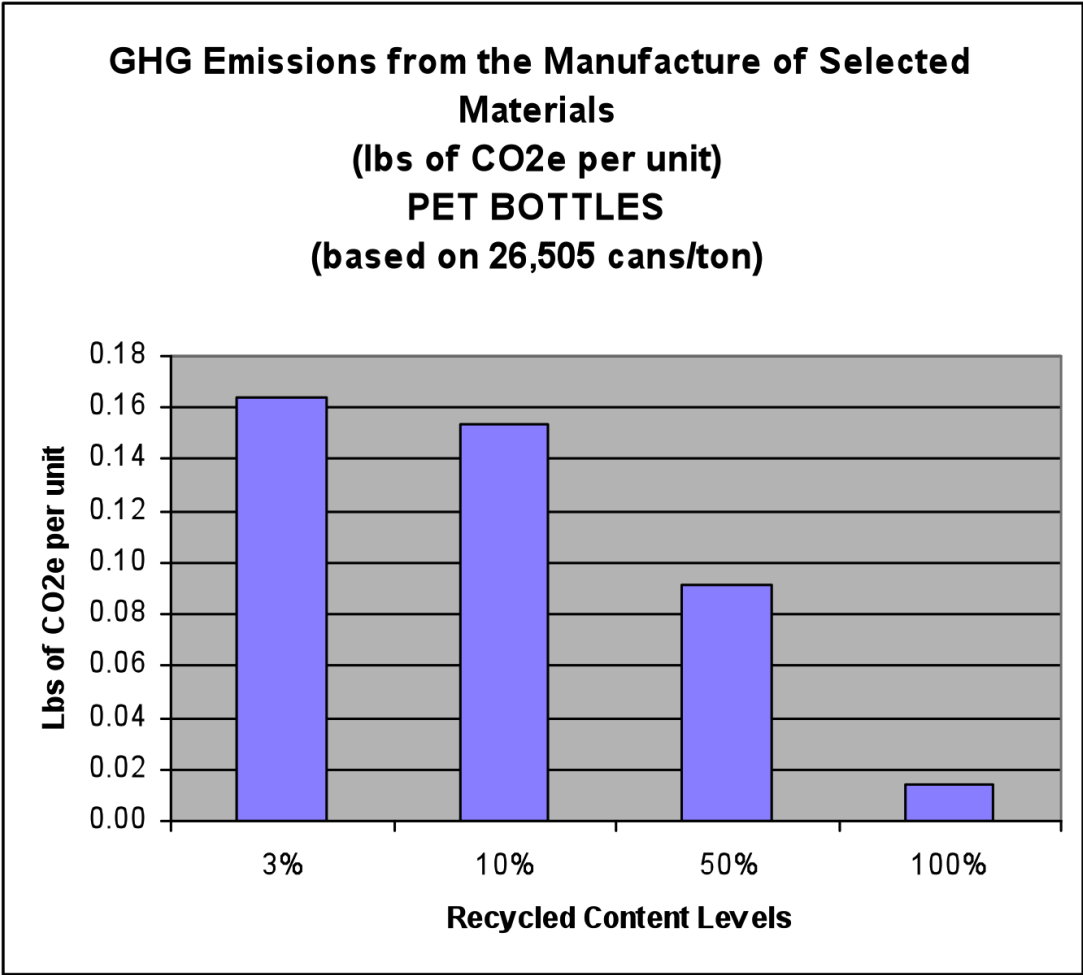
(in U.S. household equivalents)



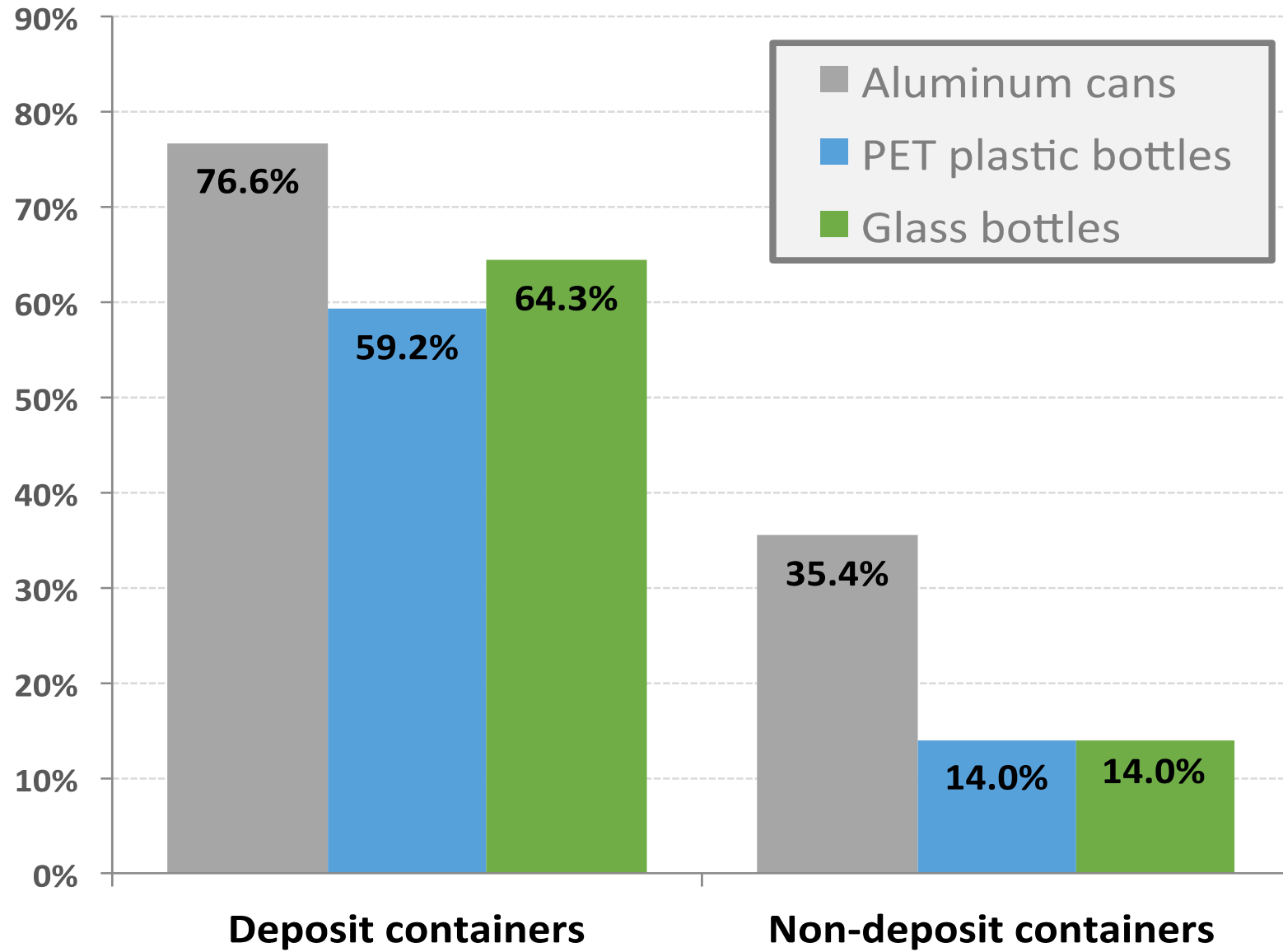
Assumes 89.6 MBtu per household per year. See further notes and sources in Appendix B.

© Container Recycling Institute, 2013

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



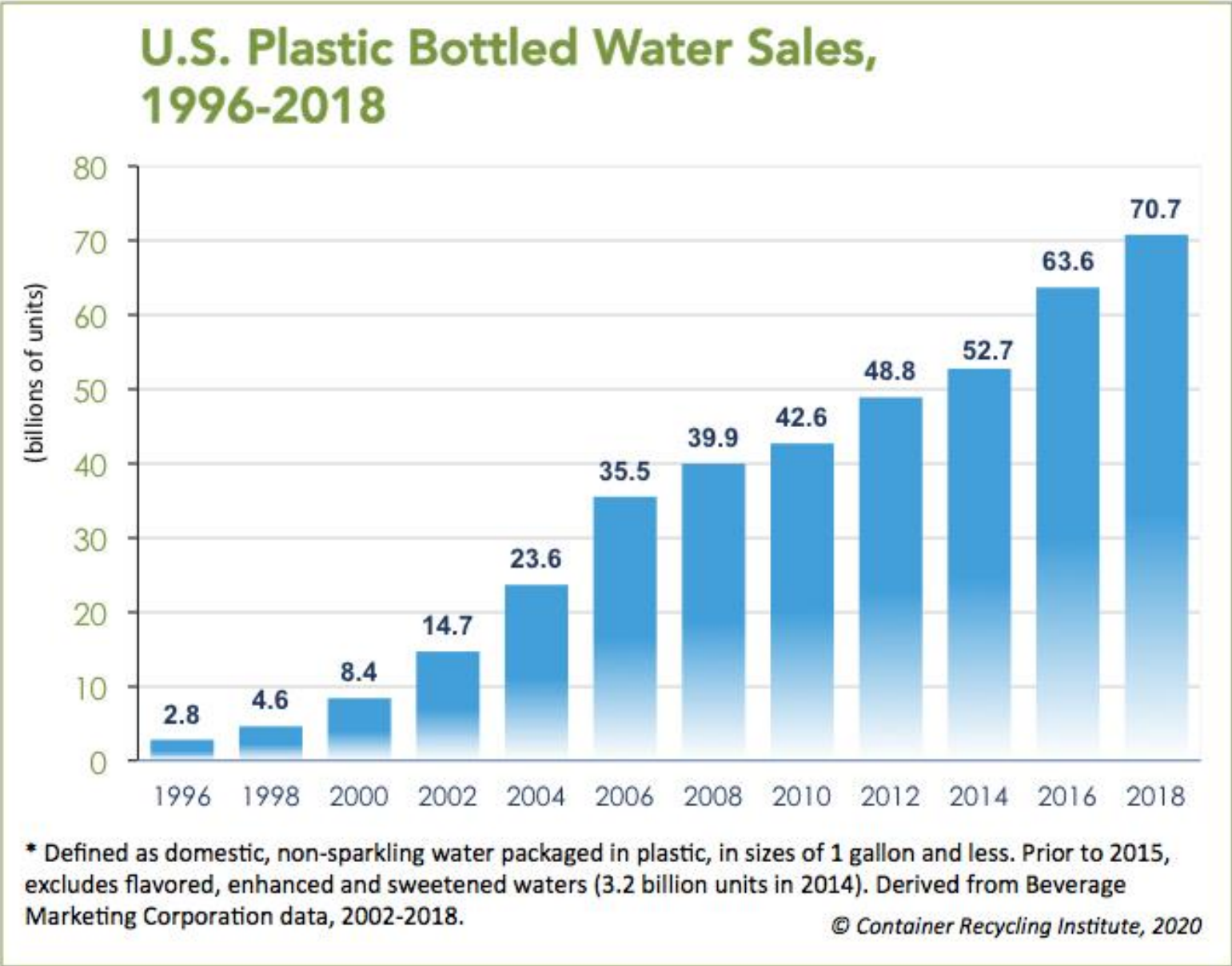
U.S. Recycling Rates by Deposit Status, 2017



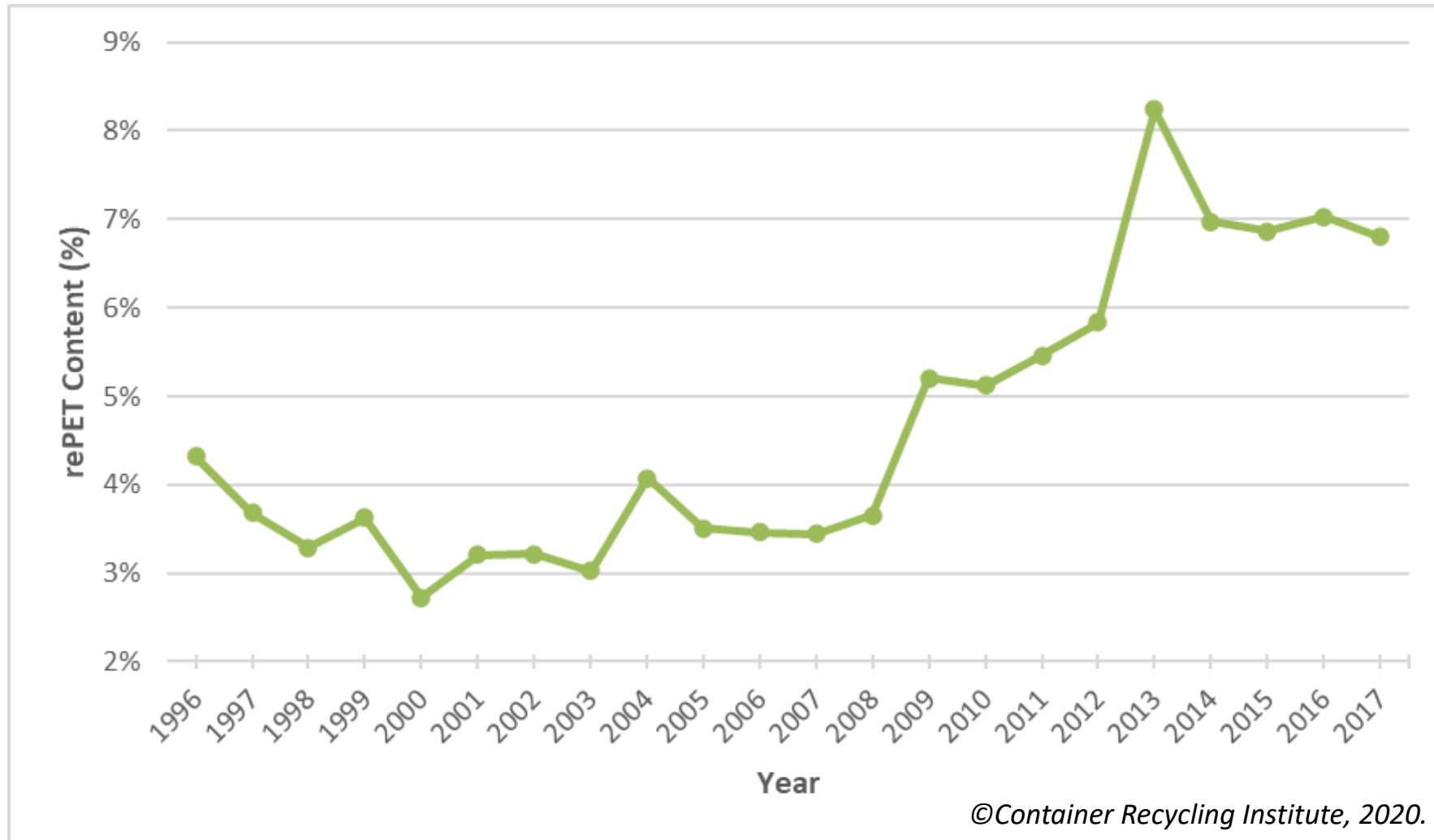
Source: "2017 Beverage Market Data Analysis," Container Recycling Institute, 2019. *This graph is copyrighted, and is not to be shared, copied, or reproduced in any manner without written permission from CRI.*

© Container Recycling Institute, 2020.

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



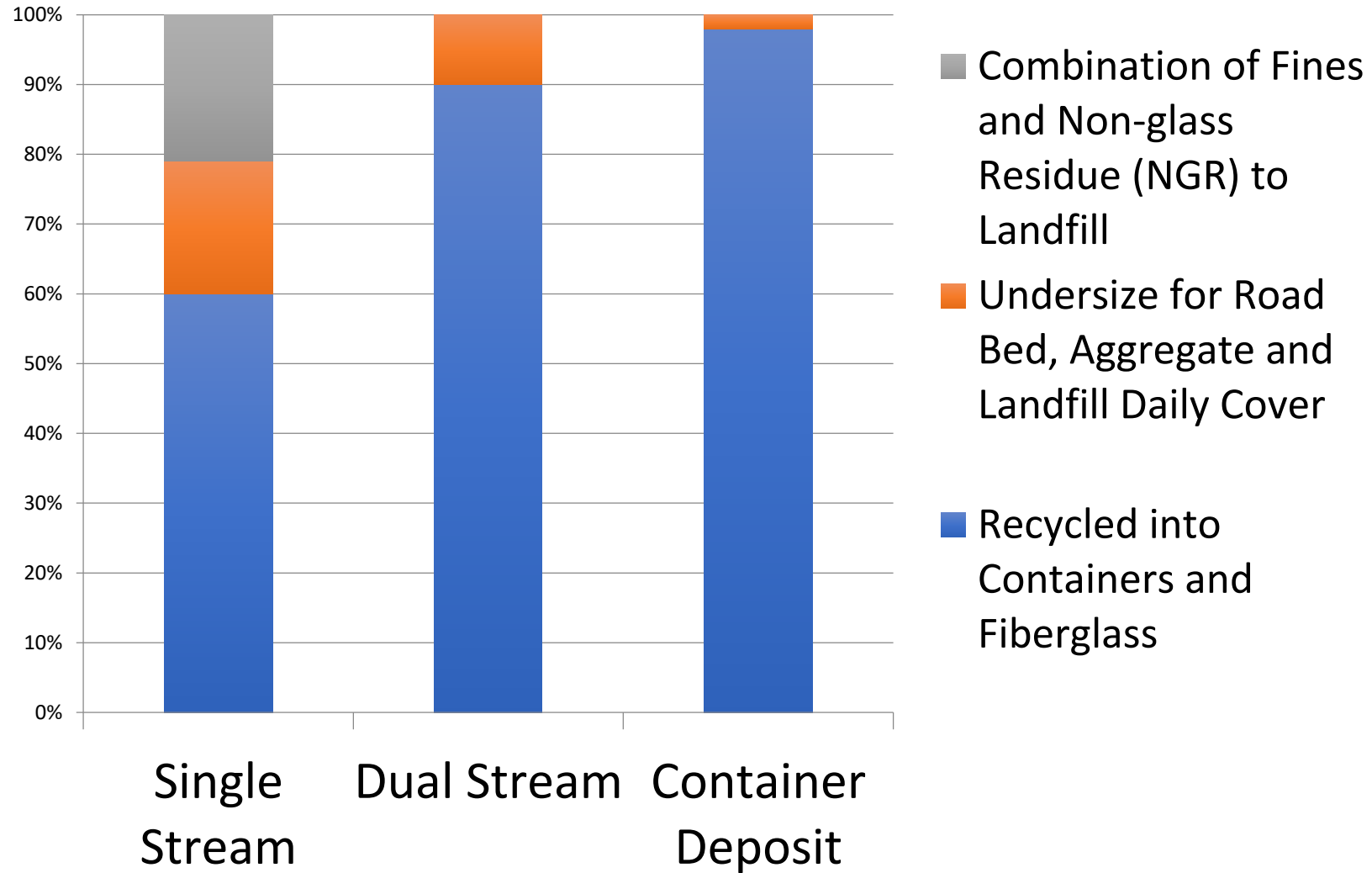
Recycled PET Content in Bottles (1996-2017)



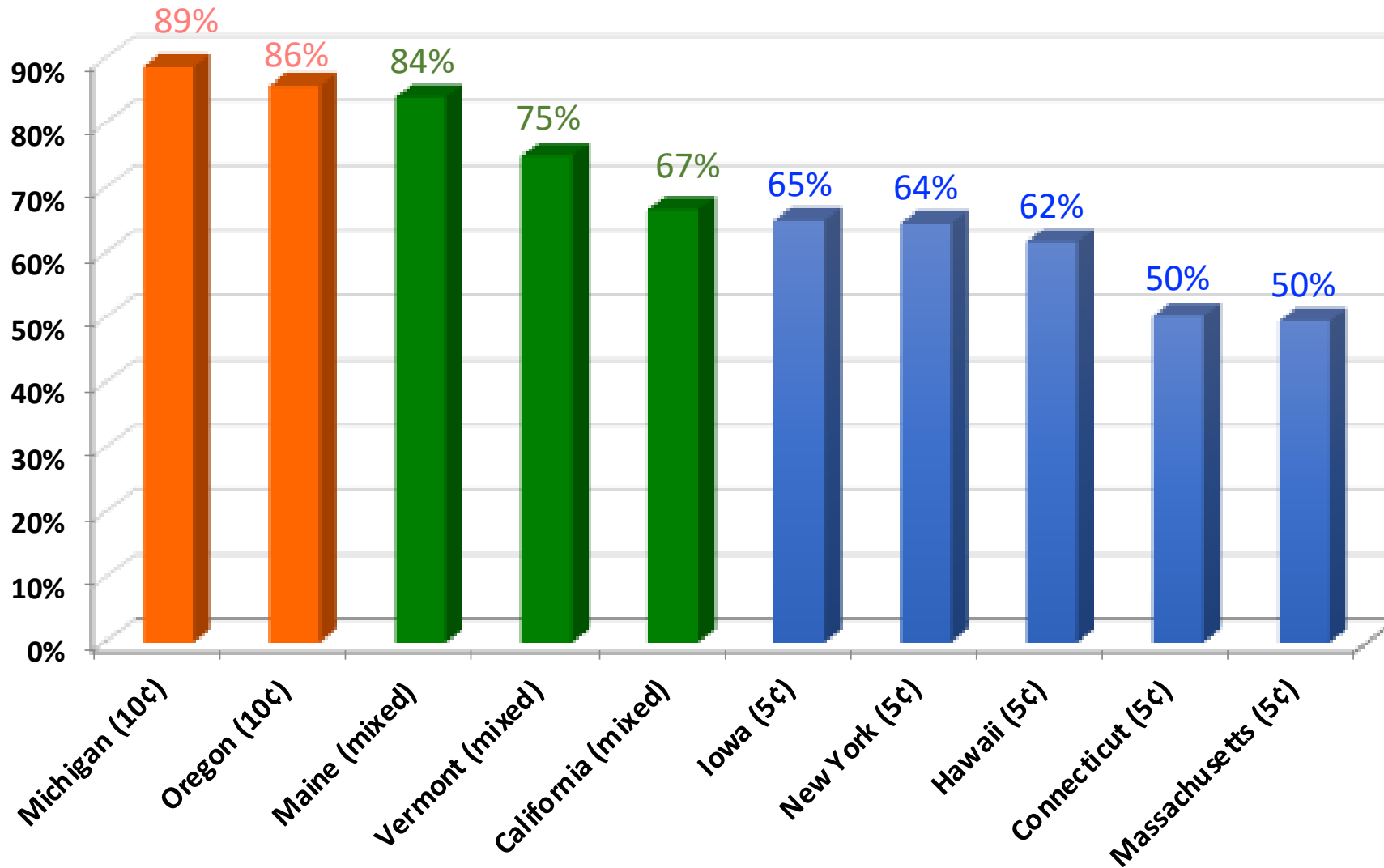
Differences Between Deposit PET and Curbside PET (on average)

| 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. |

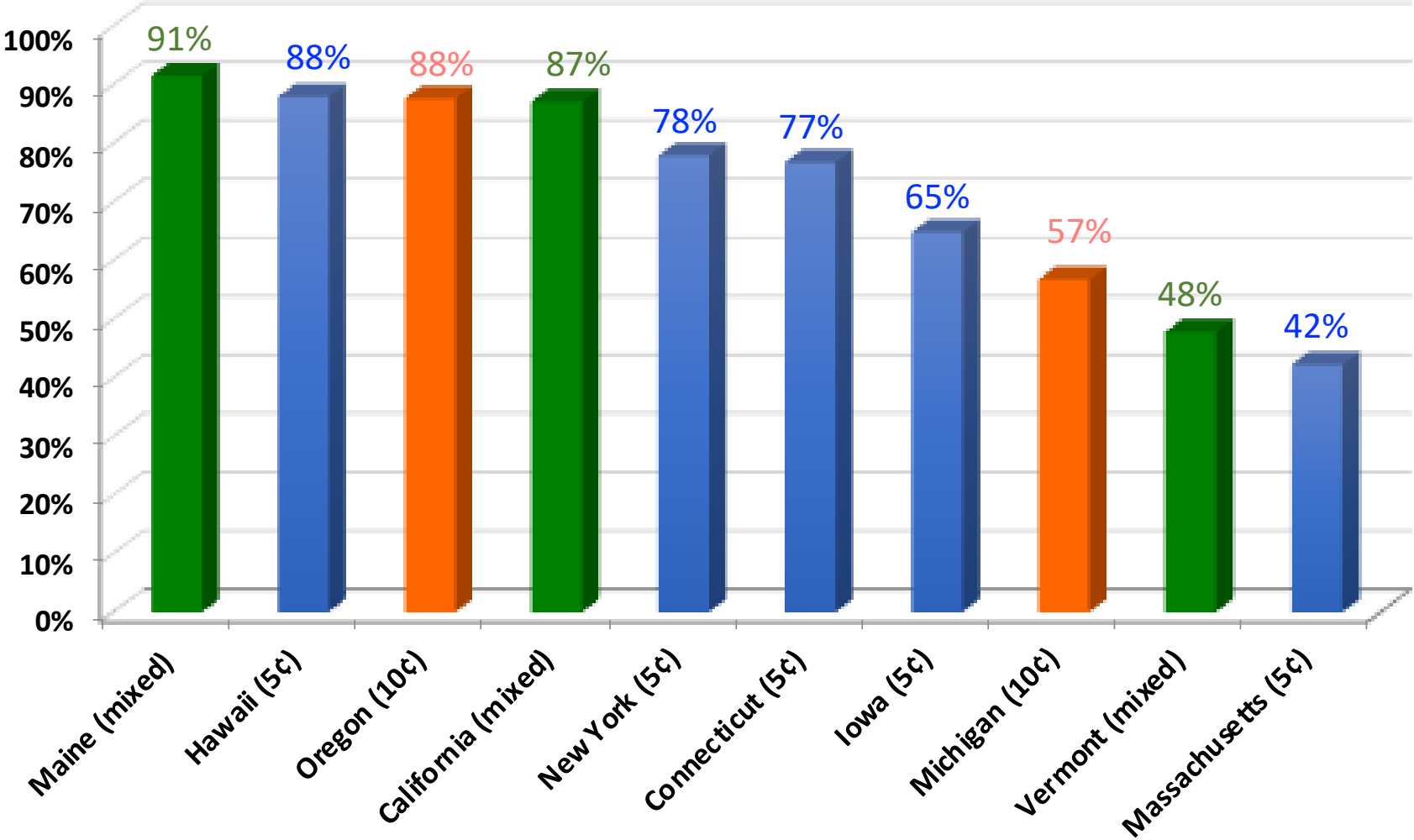
Glass Fines and Residue Rates



Redemption Rates for U.S. Deposit States, 2019

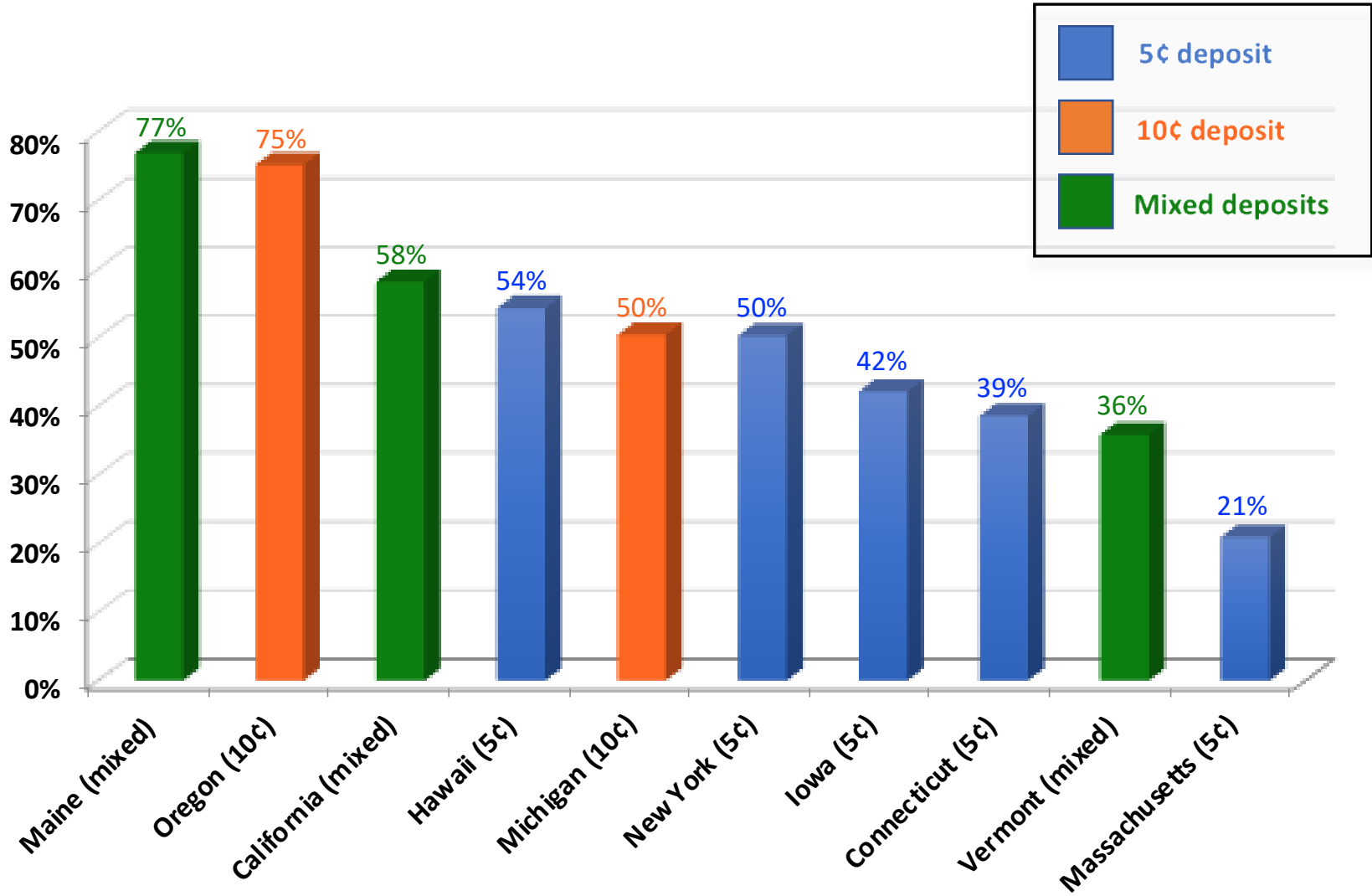


Percent of U.S. Beverage Units Covered by Deposits, 2019



This graph is copyrighted, and is not to be shared, copied, or reproduced in any manner without written permission from CRI.

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



This graph is copyrighted, and is not to be shared, copied, or reproduced in any manner without written permission from CRI.

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

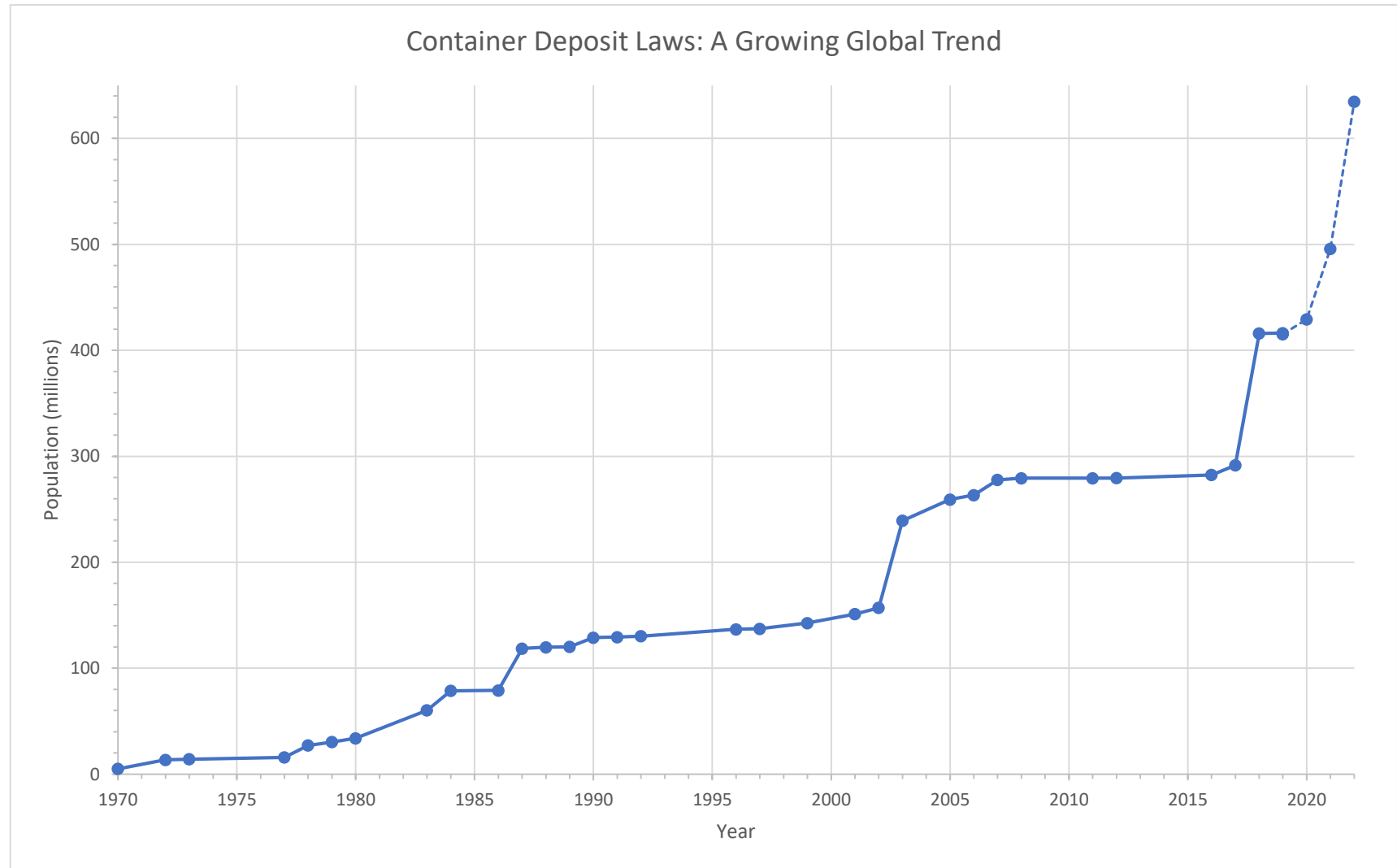
| Location | Carbonated | Non-carbonated | Wine | Spirits (Liquor) | 10¢ deposit adoption |
|-------------------|------------|----------------|------------------|------------------|----------------------|
| California | 5¢, 10¢ | 5¢, 10¢ | X | X | 2007 |
| Oregon | 10¢ | 10¢ | under discussion | under discussion | 2017 |
| Michigan | 10¢ | X | X | X | 1978 |
| Maine | 5¢ | 5¢ | 15¢ | 15¢ | X |
| Iowa | 5¢ | X | 5¢ | 5¢ | X |
| Vermont | 5¢ | X | X | 15¢ | X |
| 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, and for Canadian provinces, see “Who Pays What: an Analysis of Beverage Container Collection and Costs in Canada.” CM Consulting, Nov. 2020.

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 |
| Total | | | 351.2 |

Existing and new laws will serve more than **640** million people





Container Recycling
Institute © 2018

| U.S. Deposit Tons Recycled vs. Total Beverage Tons Recycled, 2017 | | | | | |
|--|------------------|----------------|-----------------|------------------|-----------------------------------|
| | Aluminum Cans | PET Bottles | HDPE Bottles | Glass Bottles | Subtotal, bottles & cans |
| All beverage sales | 1,467,300 | 2,876,859 | 764,727 | 12,213,967 | 17,322,853 |
| Deposit beverage sales | 344,074 | 651,135 | 53,539 | 2,031,922 | 3,080,670 |
| All beverage recycling tons | 653,760 | 702,333 | 238,905 | 2,739,812 | 4,334,810 |
| All beverage recycling rate | 44.6% | 24.4% | 31.2% | 22.4% | 25.0% |
| Tons redeemed | 263,084 | 389,799 | 19,357 | 1,306,969 | 1,979,209 |
| Redemption rate | 76.5% | 59.9% | 36.2% | 64.3% | 64.2% |
| Tons redeemed as a proportion of all beverage recycling tons | 40.2% | 55.5% | 8.1% | 47.7% | 45.7% |
| <p>Source: data derived from "2017 Beverage Market Data Analysis," The Container Recycling Institute, 2020.</p> <p>© Container Recycling Institute, 2020</p> | | | | | |