

Fact Sheet:

Deposit Return System: System Performance



In an effort to reduce litter and increase recycling, more and more jurisdictions are turning to deposit return systems (DRSs) for the recovery of beverage containers. Intended to act as an economic incentive to recycle, a deposit is a small fee charged on the purchase of certain beverage containers, which is refunded (partially or fully) to the consumer when he/she returns the empty container to a collection point.

Despite claims to the contrary by the beverage industry, international experience consistently shows that collection rates for beverage containers are significantly higher in jurisdictions that have deposit return. In Canada, provinces with deposit return programs recover an average of 80% of all non-refillable beverage containers sold, compared to an average of just 50% in provinces that recover containers through municipal curbside recycling programs. In some jurisdictions, collection rates are significantly higher at more than 95%. In the U.S., states with active container deposit laws recycle 66-96% of covered containers, while the overall recycling rate for beverage containers in states without deposit return is around 30%.ⁱ Nearly every European country with deposit return for single use beverages reports recycling rates of over 85%.

In addition, in most non-deposit jurisdictions in North America and Europe, collection rates for non-deposit containers tend to be over-estimated because they report on collection rather than what is actually recycled. What's more is that these rates do not account for free-riders and can sometimes include tonnage of imported recyclables.

Program performance is typically measured using the collection rate, which represents the number of containers collected for recycling in a given jurisdiction versus the number of containers sold. Assessing the performance of a DRS is straightforward since the deposit/refund allows sales and collections to be tracked to the last unit. Measuring the performance of curbside collection programs, on the other hand, is more complex because beverage packaging is collected together with other material, such as paper and non-beverage containers.

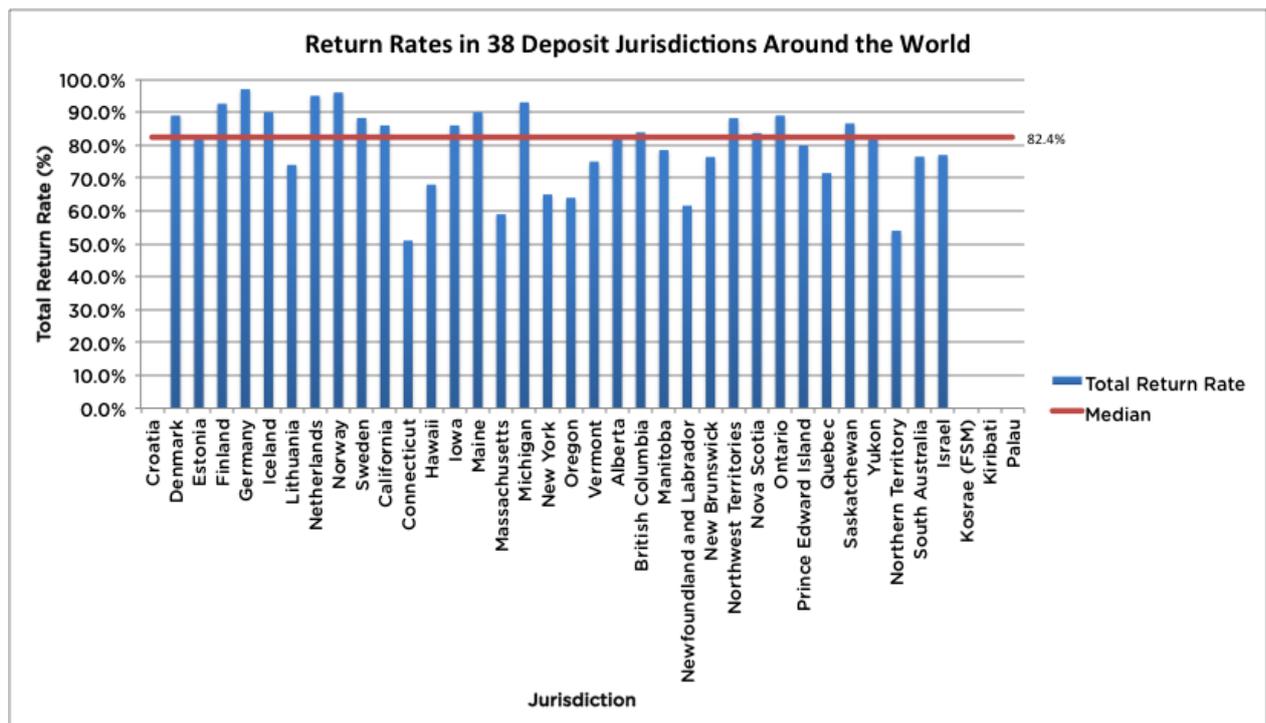
In contrast, in DRSs, collection *is* recycling because contamination is low and quality is high, and because these rates are reported on unit counts, not on weight.

The following table summarizes the performance of 38 different DRSs around the world, where data was available.

Jurisdiction	Data Year	Refund		Total Return Rate
		Local Currency	Euro and USD Equivalent	
Croatia	2015	0.5 HRK	€0.066 USD\$0.07	Up to 90%
Denmark	2014	1-3 DKK	€0.13- €0.4 USD\$0.15-\$0.45	89%
Estonia	2014	€0.1	(USD\$0.11)	78.6%
Finland	2014	€0.10-€0.40	USD\$0.11- \$0.45	92.6%
Germany	2014	€0.25	USD\$0.28	97%
Iceland	2013	15 ISK	€0.11 USD\$0.12	90%
Lithuania	2016	€0.10	USD\$0.11	74%
Netherlands	2014	€0.25	USD\$0.28	95%
Norway	2014	1-2.5 NOK	€0.13- €0.32 USD\$0.12-\$0.30	96%
Sweden	2014	1-2 SEK	€0.11-€0.22 USD\$0.12-\$0.24	88.25%
California ⁱⁱ	2015	USD\$0.05-\$0.10	€0.05-€0.09	86% ⁱⁱⁱ
Connecticut ^{iv}	2015	USD\$0.05	€0.05	51% ^v
Hawaii ^{vi}	2015-16	USD\$0.05	€0.05	67% ^{vii}
Iowa ^{viii}	2015	USD\$0.05	€0.05	86% ^{ix}
Maine	2015	USD\$0.05-\$0.15	€0.05-€0.14	90% ^x
Massachusetts	2015	USD\$0.05	€0.05	59% ^{xi}
Michigan	2014	USD\$0.10	€0.09	93% ^{xii}
New York ^{xiii}	2015	USD\$0.05	€0.05	65% ^{xiv}
Oregon	2015	USD\$0.10	€0.09	64% ^{xv}
Vermont ^{xvi}	2015	USD\$0.05-\$0.15	€0.05-€0.14	75% ^{xvii}
Alberta	2014	CAD\$0.10-\$0.25	€0.07-€0.17 USD\$0.07-\$0.18	82.5% ^{xviii}
British Columbia	2014	CAD\$0.05-\$0.20	€0.03-€0.13 USD\$0.04-\$0.15	83.9% ^{xix}
Manitoba	2014	CAD\$0.10-\$0.20	€0.07-€0.13 USD\$0.10-\$0.15	78.5% ^{xx}
Newfoundland and Labrador	2014-15	CAD\$0.05-\$0.10	€0.03-€0.07 USD\$0.04-\$0.07	61.6% ^{xxi}
New Brunswick	2014-15	CAD\$0.05-\$0.10	€0.03-€0.07 USD\$0.04-\$0.07	76.4% ^{xxii}
Northwest Territories	2013-14	CAD\$0.10-\$0.25	€0.07-€0.17 USD\$0.07-\$0.18	88.2% ^{xxiii}
Nova Scotia	2013-14	CAD\$0.05-\$0.10	€0.03-€0.07 USD\$0.04-\$0.07	83.7% ^{xxiv}
Ontario	2014	CAD\$0.10-\$0.20	€0.07-€0.13 USD\$0.10-\$0.15	89% ^{xxv}
Prince Edward Island	2014-15	CAD\$0.05-\$0.10	€0.03-€0.07 USD\$0.04-\$0.07	79.9% ^{xxvi}
Quebec	2014	CAD\$0.05-\$0.20	€0.03-€0.13 USD\$0.04-\$0.15	71.5% ^{xxvii}
Saskatchewan	2014	CAD\$0.05-\$0.40	€0.03-€0.27 USD\$0.04-\$0.29	86.6% ^{xxviii}

Jurisdiction	Data Year	Refund		Total Return Rate
		Local Currency	Euro and USD Equivalent	
Yukon	2014-15	CAD\$0.05-\$0.25	€0.03-€0.17 USD\$0.04-\$0.18	82.3% ^{xxix}
Northern Territory	2015-16	AUD\$0.10	€0.07 USD\$0.08	54% ^{xxx}
South Australia	2015-16	AUD\$0.10	€0.07 USD\$0.08	76.5% ^{xxxi}
Israel	2015	0.3 ILS	€0.07 USD\$0.08	77%
Kosrae (Federated States of Micronesia)	N/A	\$0.05		N/A
Kiribati	N/A	AUD\$0.04	€0.03	N/A
Palau	N/A	\$0.05		N/A

Disclaimer: In general, return rates were obtained from programs operator or the government agency responsible for oversight.



Conclusion:

From North America to Australia and across Europe, global momentum for deposit return continues to grow. DRs achieve high performance, produce higher quality recyclates, and promote the transition to a circular economy. Given these benefits and the often poor performance of multi-material curbside programs, more and more beverage companies are considering it to be the best solution to manage their empty containers in a circular way and to tackle the growing problems of land-based and marine litter.

Endnotes

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- ⁱ Container Recycling Institute. 2013. “Bottled Up: Beverage Container Recycling Stagnates (2000-2010).” <www.container-recycling.org/index.php/publications/2013-bottled-up-report>
- ⁱⁱ Curbside included in redemption rate; curbside program collects 9% and other programs collect the other 72% of covered beverage containers.
- ⁱⁱⁱ CalRecycle. May 2016. “California’s Beverage Container Recycling and Litter Reduction Program Fact Sheet.” <www.calrecycle.ca.gov/Publications/Documents/1565/201601565.pdf>
- ^{iv} Redemption rate for 2015 does not include third quarter data. Before water bottles were added to the deposit system in 2009, redemption rates were higher (in the range of 65-70%).
- ^v Judy Belaval, Connecticut Office of Source Reduction and Recycling – Bureau of MM&CA, DEEP: calendar year data.
- ^{vi} Deposit containers collected at curbside (in Honolulu only) are already included in the statewide redemption rates.
- ^{vii} State of Hawaii Office of the Auditor. March 2017. “Financial and Program Audit of the Deposit Beverage Container Program June 30, 2016.” A Report to the Governor and the Legislature of the State of Hawaii. Report No. 17-02. <<http://files.hawaii.gov/auditor/Reports/2017/17-02.pdf>>
- ^{viii} Redemption rate is estimated based on data collected circa 2005; actual data has not been collected by the IOWA DNR since that time.
- ^{ix} Iowa Department of Natural Resources. “Beverage Containers Control Law.” <www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling/Bottle-Deposit-Law>
- ^x Informal recycling rate provided by beverage industry lobbyist in testimony to state.
- ^{xi} Sean Sylver, MA DEP, January 2016. Data for calendar year.
- ^{xii} Return Processing Division, Michigan Department of Treasury.
- ^{xiii} Container Recycling Institute. “Bottle Bills in the USA: New York.” <www.bottlebill.org/legislation/usa/newyork.htm>
- ^{xiv} New York State Department of Taxation and Finance.
- ^{xv} Oregon Liquor Control Commission. “Oregon’s Bottle Bill: Frequently Asked Questions.” <www.oregon.gov/olcc/docs/bottle_bill/bottle_bill_faqs.pdf>
- ^{xvi} Estimate is from a 2012-2013 study commissioned by the state.
- ^{xvii} Vermont’s estimate is from a 2012-2013 study commissioned by the State.
- ^{xviii} CM Consulting Inc. 2016. “Who Pays What: An Analysis of Beverage Container Collection and Costs in Canada: 2016.” <www.cmconsultinginc.com/wp-content/uploads/2016/12/WPW2016-FINAL-with-cover.pdf>
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- ^{xxvii} *ibid.*
- ^{xxviii} *ibid.*
- ^{xxix} *ibid.*
- ^{xxx} Northern Territory Environment Protection Authority. October 2016. Environment Protection (Beverage Containers and Plastic Bags) Act – Annual Report 2015-16. <https://ntepa.nt.gov.au/_data/assets/pdf_file/0006/387987/2015-16-CDS-Annual-Report.pdf>
- ^{xxxi} South Australia Environmental Protection Authority. “Container Deposits.” www.epa.sa.gov.au/environmental_info/container_deposit

ReLoop is a broad platform of like-minded interests that share a common vision for a circular economy. ReLoop is born to connect stakeholders, allow for information-sharing to inform those stakeholders, and influence decision makers to adopt policy that works towards the implementation of policies and systems that promote a circular economy. With members coming from different sectors across Europe, the platform aims to work as a catalyst in order to generate economic and environmental opportunities for all stakeholders in the value chain. This includes producers, distributors, recyclers, academia, NGOs, trade unions, green regions, or cities.

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