



Extended Producer Responsibility in the US

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Agenda

1. What is EPR & how has it been applied in the US
2. EPR program performance
3. EPR for Packaging and Printed Paper
4. Challenges of implementing EPR

Who is Signalfire Group?

SUPPORTING BUSINESS & GOVERNMENT MOVING TOWARD A CIRCULAR ECONOMY



Assist in Policy Development & Implementation



Assess Markets & Policies to Understand Impact



Develop Strategies to Align Goals & Compliance



Design/Assess Programs & Pilot Implementation



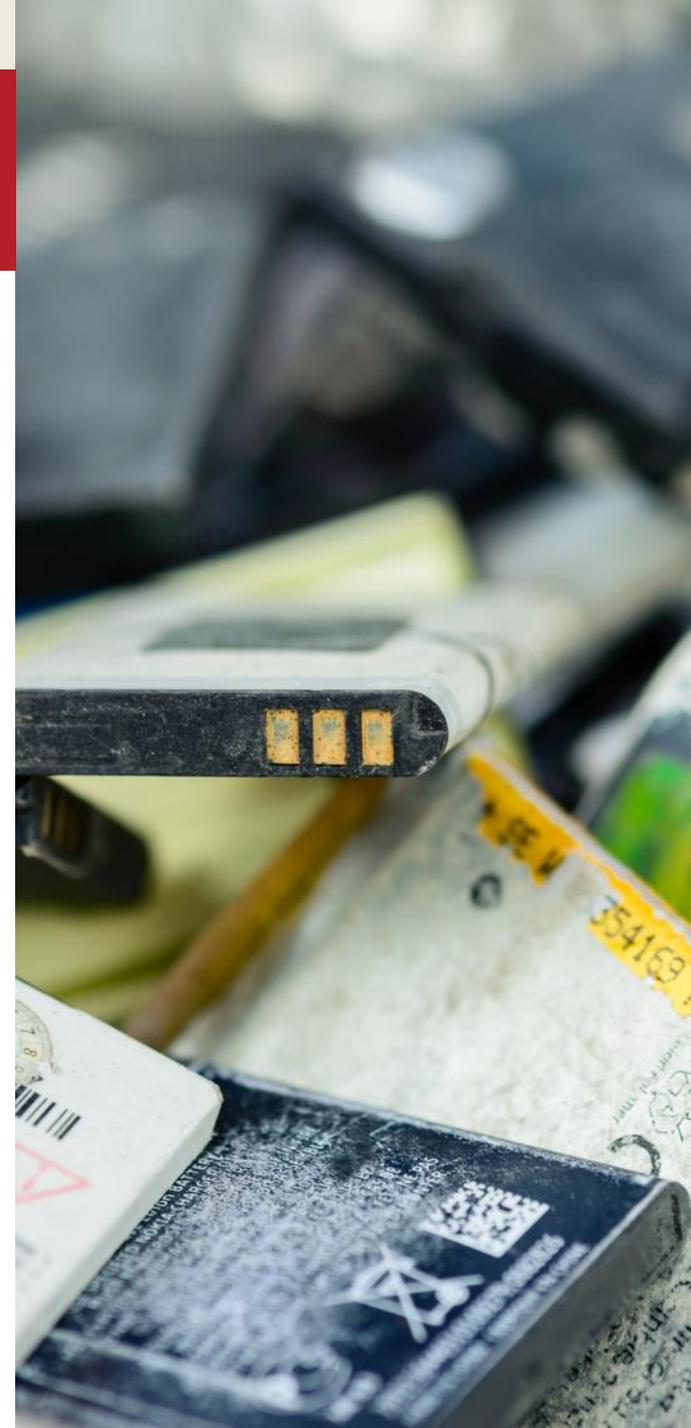
What is EPR and How Has it Been Applied in the U.S.

What is Extended Producer Responsibility?

Extended producer responsibility is a policy approach and practice in which producers take responsibility for management of the products and/or packaging they produce at the end of their useful life. Responsibility may be fiscal, physical, or a combination of the two.

WHO ARE THE PRODUCERS?

- Brand Owners/Manufacturers

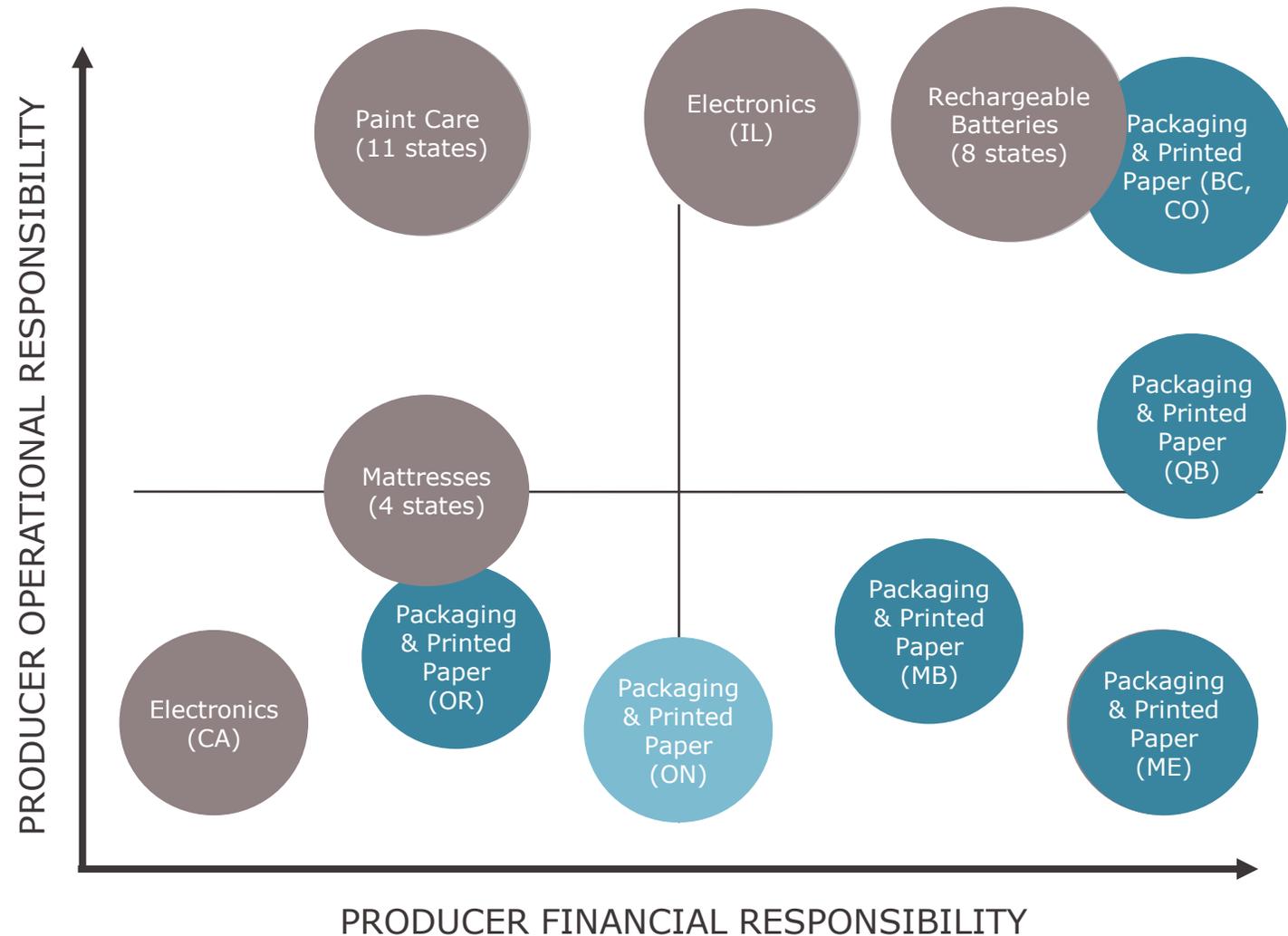


Spectrum of EPR Management Structures

The level of financial and operational responsibility varies depending on the structure of the program

Color Key:

- EPR for Products
- EPR for PPP
- EPR for PPP (in transition)



Key Elements of Successful EPR Programs

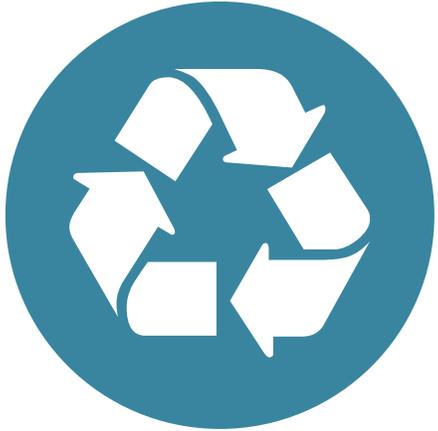
- Convenient collection
- Dedicated financing streams
- Clear responsibility & accountability
- Performance standards (convenience or “rates & dates”)
- Incentives
- Oversight & enforcement

Other Contributors to Successful Programs

- Transparency/reporting requirements
- Environmental management standards
- Disposal bans
- Education & outreach



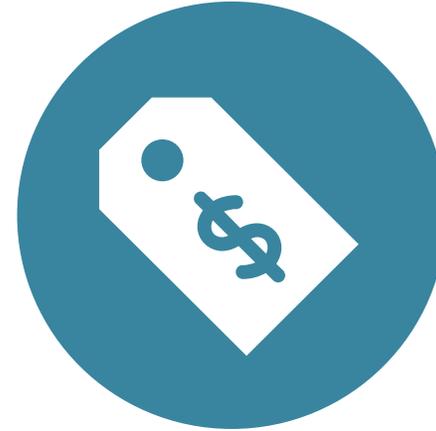
Why Choose EPR?



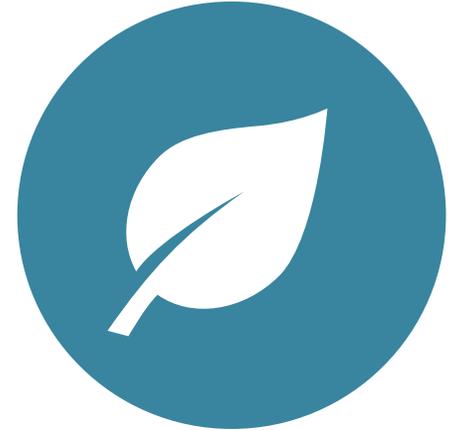
Increase
diversion and
recovery



Reduce
cost to
government



Incorporate the
cost of recycling/
end-of-life
management in
the cost of the
product



Improve the
design of
products to
reduce
environmental
impact

EPR: History & Trends

1990

Thomas Lindqvist coins the phrase EPR in report to Swedish Government

1991

German Packaging EPR/ Green Dot

1994

EU Directive on Packaging & Packaging Waste

1996-2006

OECD Analyses/ reports on EPR

1996-1998

US President's Council on Sustainable Development Explores EPR

1980s

Beverage Container Deposits

1994-1996

Rechargeable Battery EPR

1999

MN Product Stewardship Policy Statement

2002-2006
Mercury Switch EPR

2003-2014
E-Scrap EPR

2006-2013
Thermostat EPR

2009-2016
Fluorescent Light Bulb EPR

2009-current
Paint EPR

2010
CA Carpet EPR
Maine EPR Framework

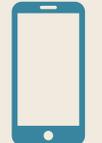
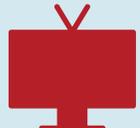
2012 - current
Pharmaceuticals EPR

2013
Mattress EPR

2014
VT Single Use Battery Recycling EPR

2021
Packaging & Printed Paper

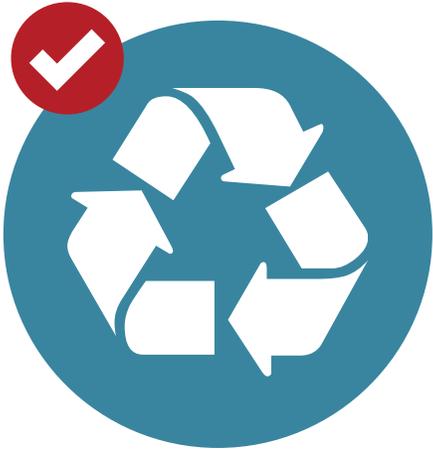
EPR is Widely Applied Across the U.S.

<p>BEVERAGE CONTAINERS</p> <p>CA, CT, HI, IA, ME, MA, MI, NY, OR, VT</p> 	<p>CARPET</p> <p>CA</p> 	<p>MERCURY SWITCHES</p> <p>AR, IA, IL, IN, MA, MD, ME, NC, NJ, RI, SC, UT, VA, VT</p> 	<p>CELL PHONES</p> <p>CA</p> 	<p>FLUORESCENT LIGHTING</p> <p>ME, VT, WA</p> 	<p>RECHARGEABLE BATTERIES</p> <p>CA, IA, MD, MN, NY, NJ, ME, VT*, WA, DC* (*includes alkaline)</p> 	<p>ELECTRONICS</p> <p>CA, CT, DC, HI, IL, IN, ME, MD, MI, MN, MO, NJ, NY, NC, OK, OR, PA, RI, SC, TX, UT, VT, VA, WA, WV, WI</p> 
<p>MERCURY THERMOSTATS</p> <p>CA, CT, IA, IL, MA, MD, ME, MN, MT, NH, NY, PA, RI, WA, VT</p> 	<p>PHARMA</p> <p>CA, WA, NY, OR, MA, ME, IL</p> 	<p>PAINT</p> <p>CA, CO, CT, DC, ME, MN, NY, OR, RI, VT, WA</p> 	<p>SOLAR PANELS</p> <p>WA, Niagara County, NY</p> 	<p>MEDICAL SHARPS</p> <p>CA</p> 	<p>PESTICIDE CONTAINERS</p> <p>CA</p> 	<p>MATTRESSES</p> <p>CA, CT, RI, OR</p> 



EPR Program Performance

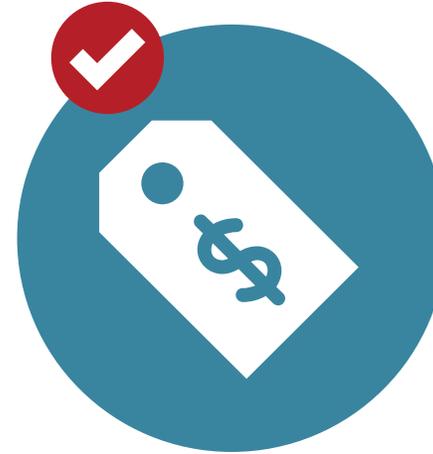
Does EPR Achieve its Objectives?



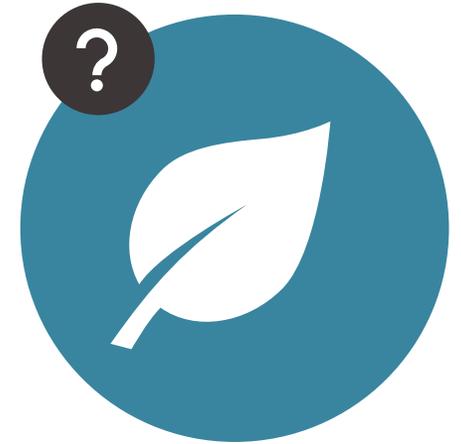
Increase
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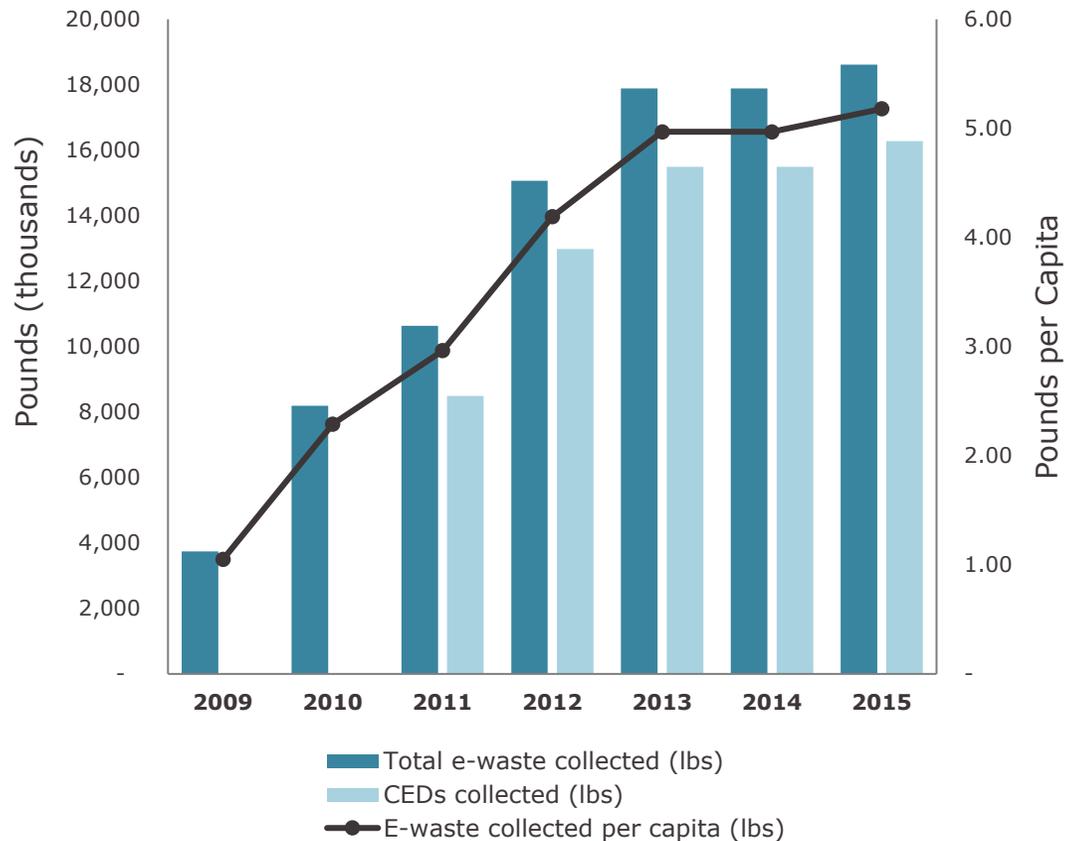
Improve the
design of
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reduce
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impact

Challenges in Evaluating EPR Program Performance

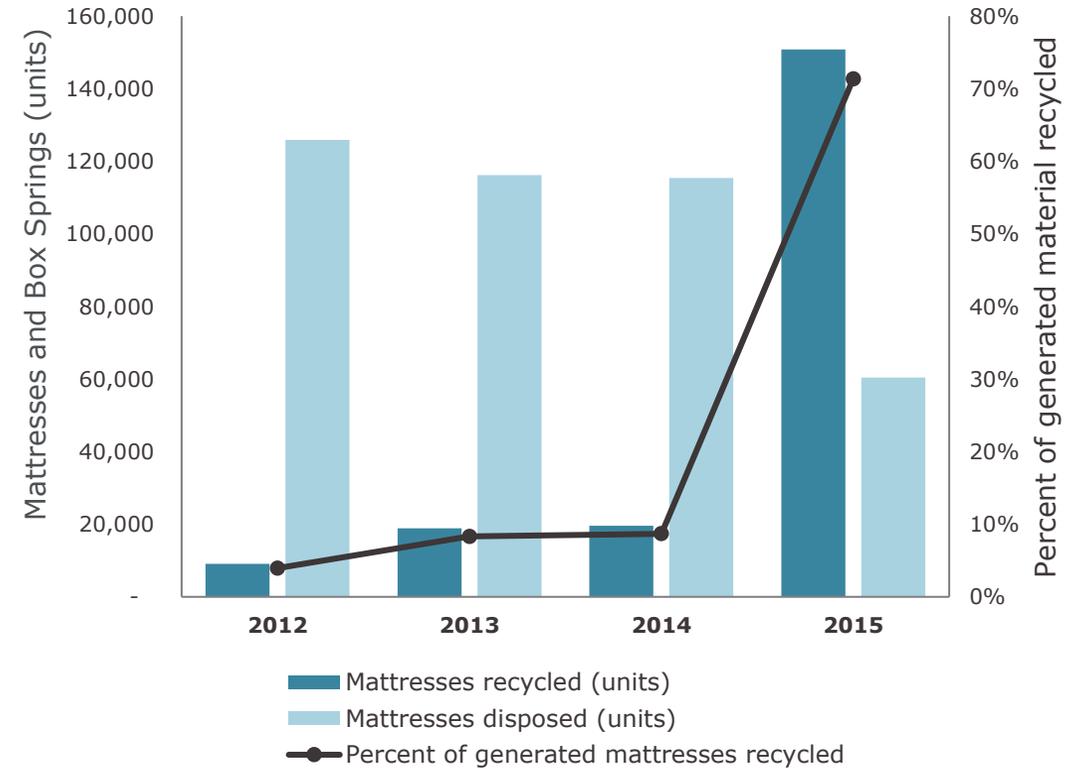
- Pre-program data not available in most jurisdictions, so before and after comparisons are difficult
- Little data available on recovery of most EPR target products in non-EPR states
- Limited visibility into local government budgets, pre- and post- EPR implementation to evaluate cost savings

Does EPR Increase Recovery? CT Example

CHANGE IN E-WASTE COLLECTED

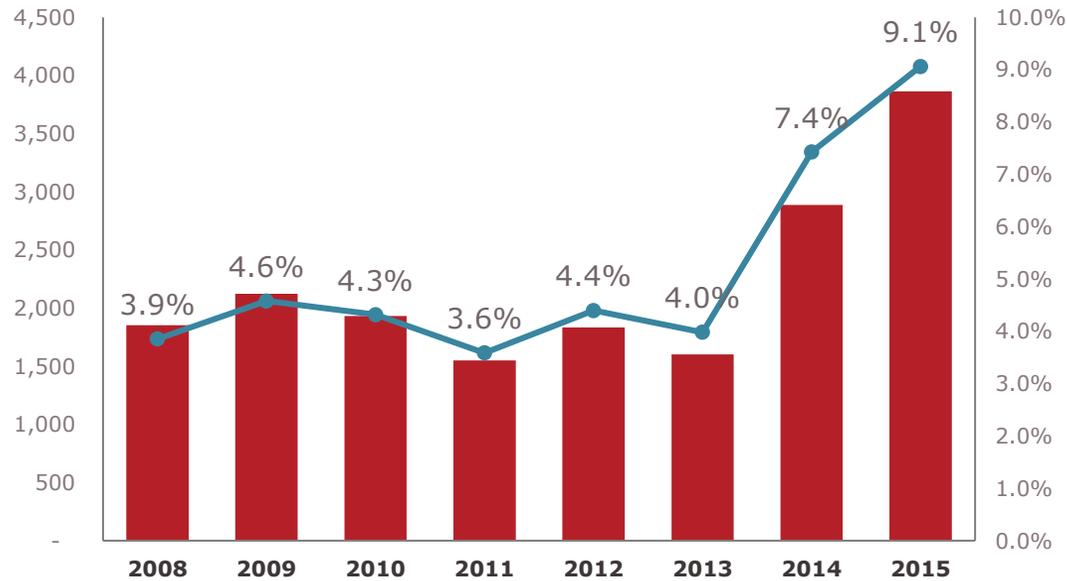


MATTRESSES RECYCLED & DISPOSED: 2010-2015



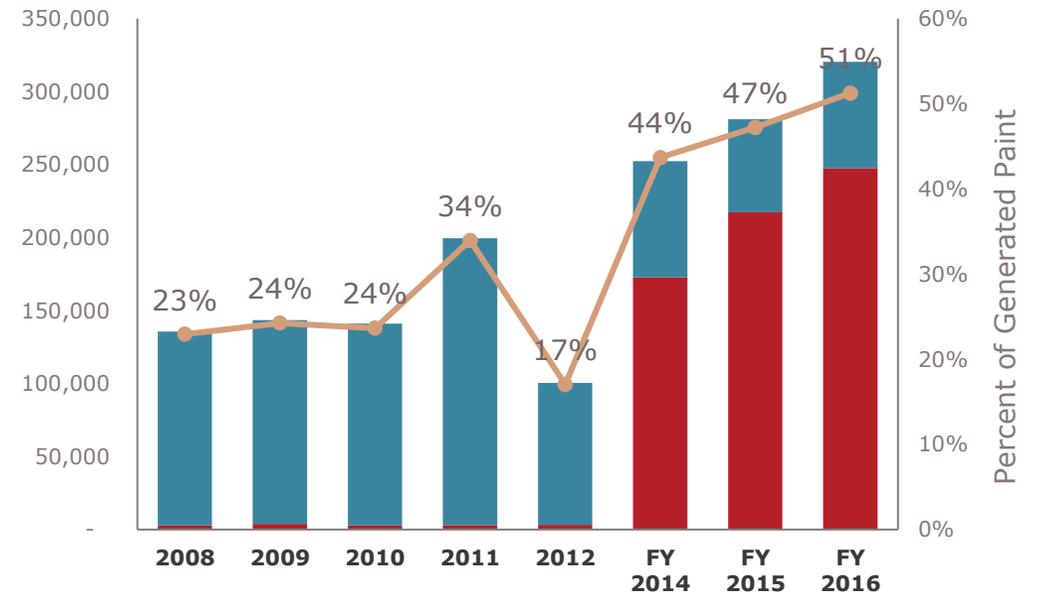
Does EPR Increase Recovery? CT Example

TRC CT THERMOSTAT COLLECTIONS, 2008-2015



■ Thermostat equivalents collected¹
● Percent of generated thermostats collected³

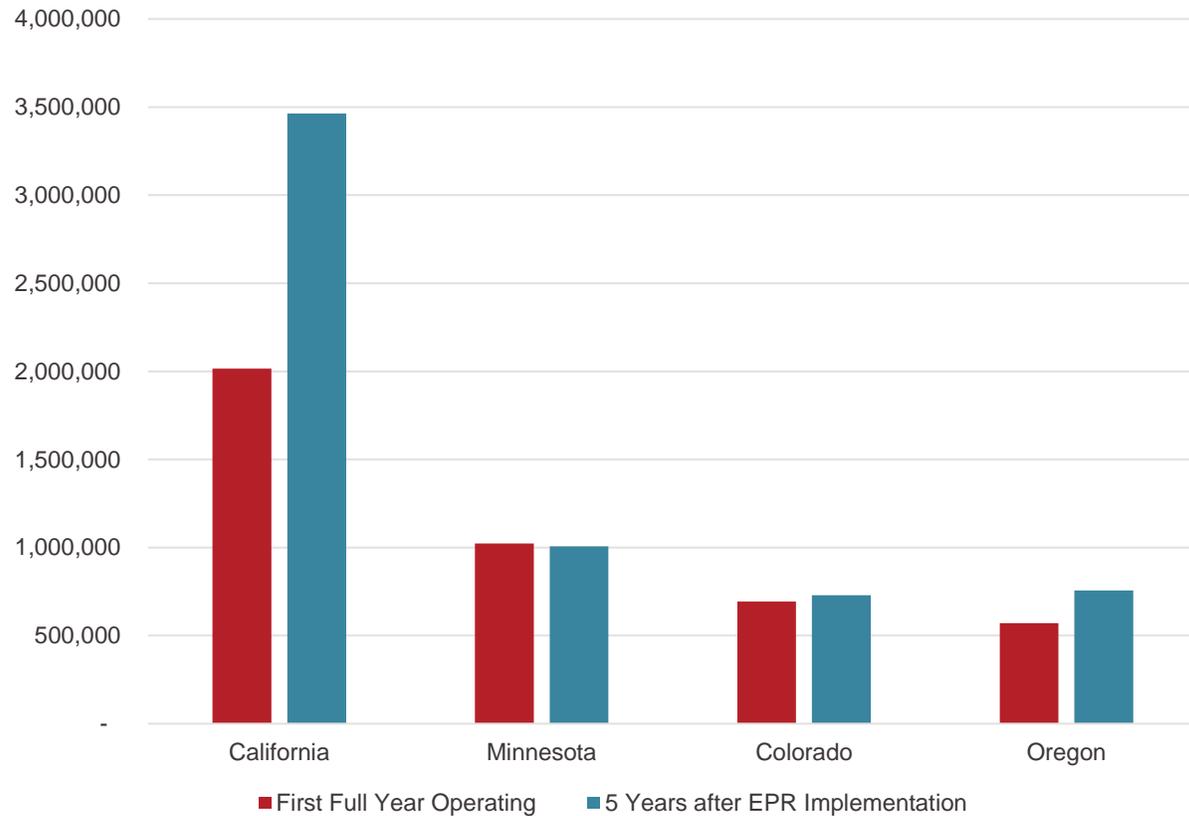
LATEX AND OIL-BASED PAINT COLLECTED: 2008-2016



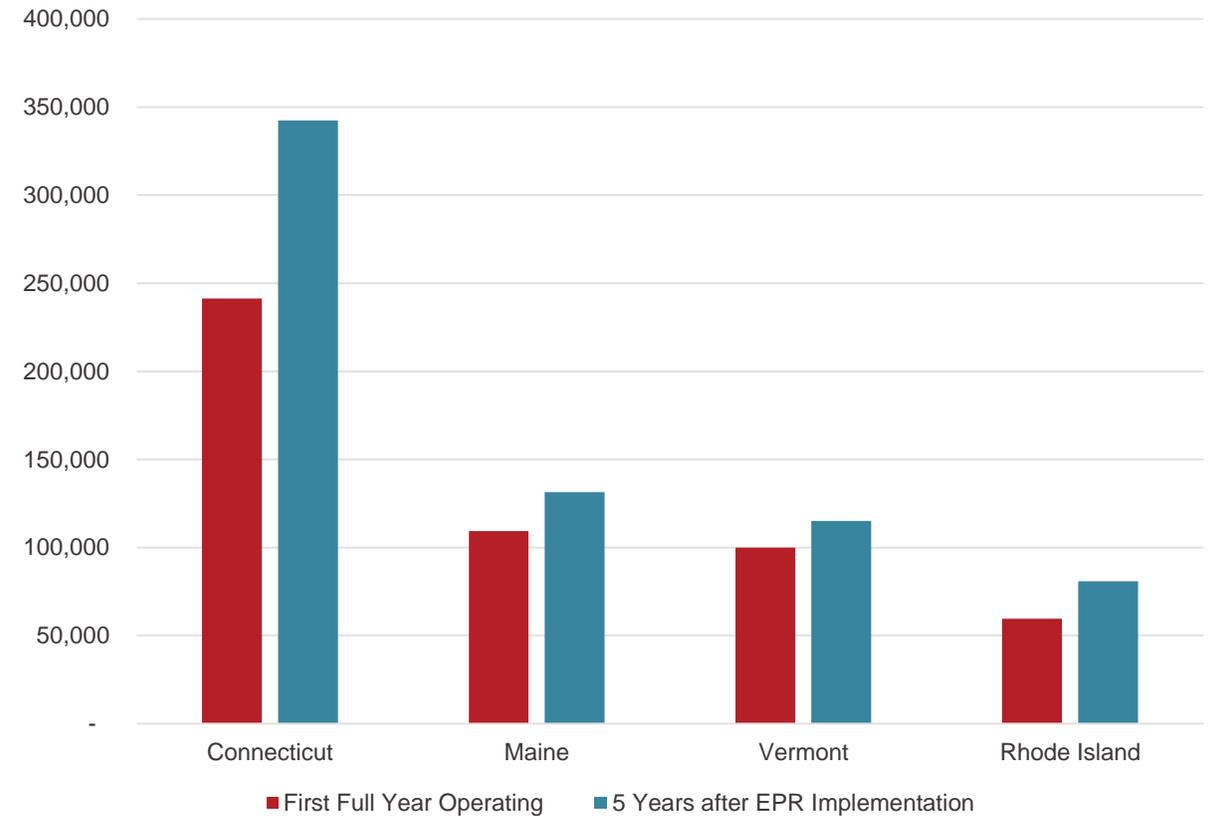
■ Oil-based paint collected (gallons)
■ Latex paint collected (gallons)
● Percent of generated leftover paint collected

Does EPR Increase Recovery? Paint Example

Gallons of Paint Collected in Larger States

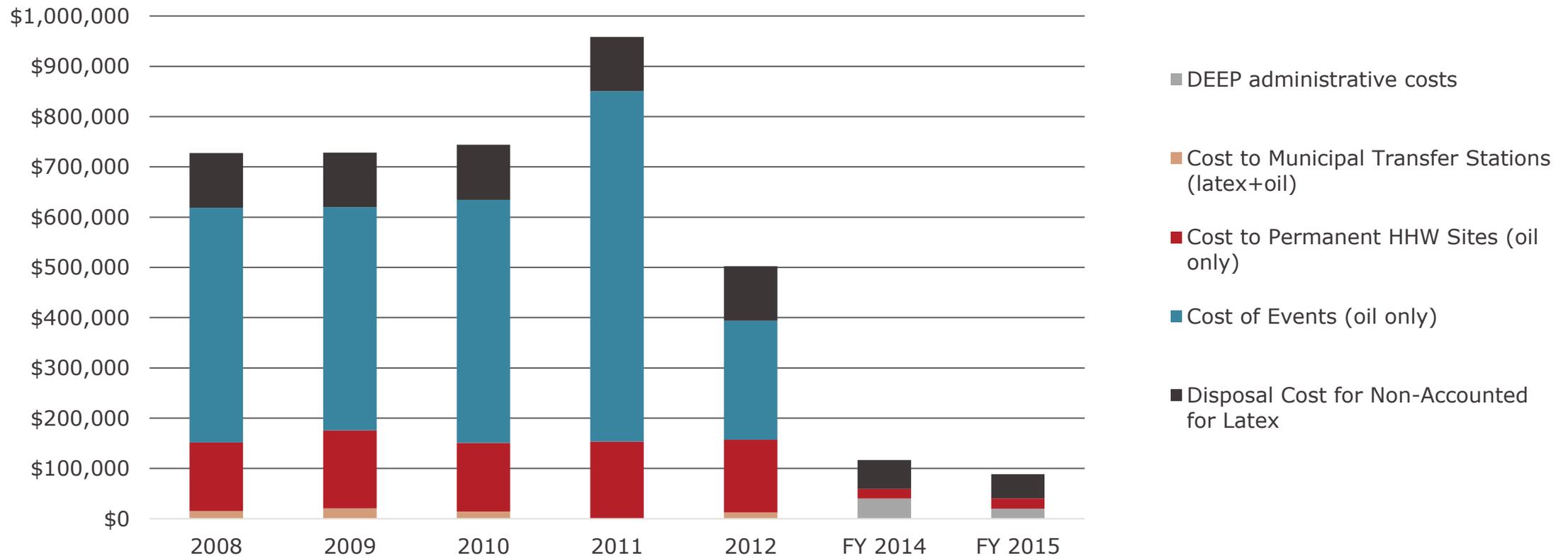


Gallons of Paint Collected in Smaller States



Does EPR Save Government Money? CT Example

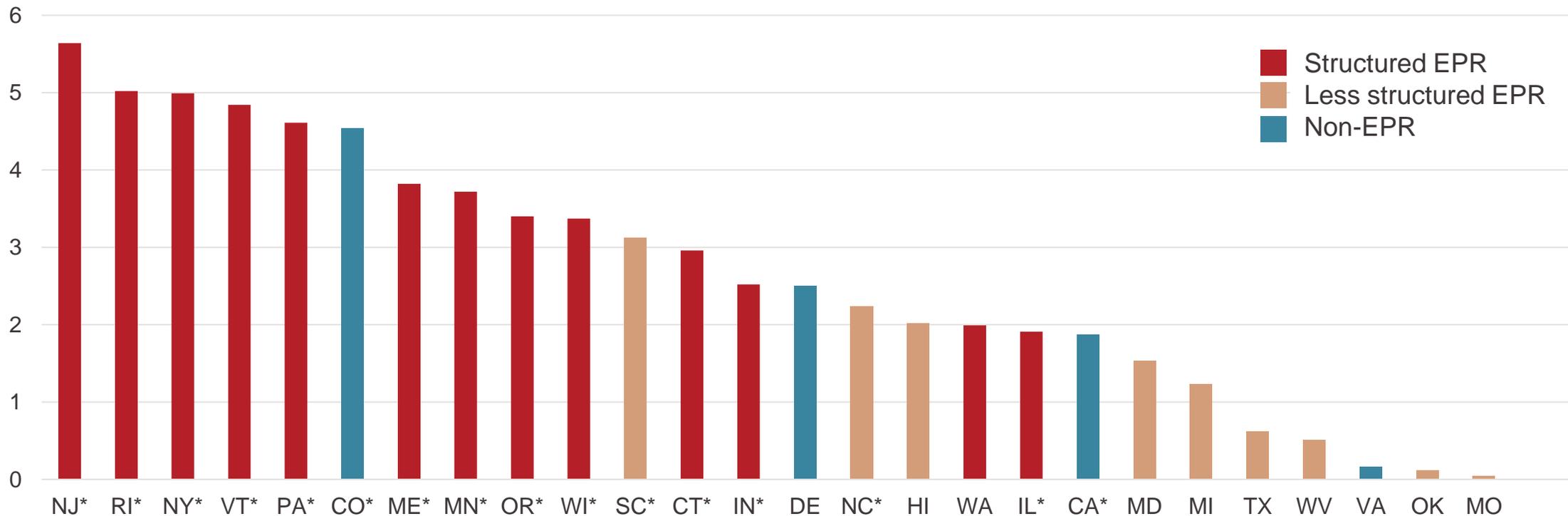
TOTAL STATE & LOCAL GOV'T PAINT MANAGEMENT COSTS



Source: Product Stewardship Institute for CT Department of Energy and Environmental Protection

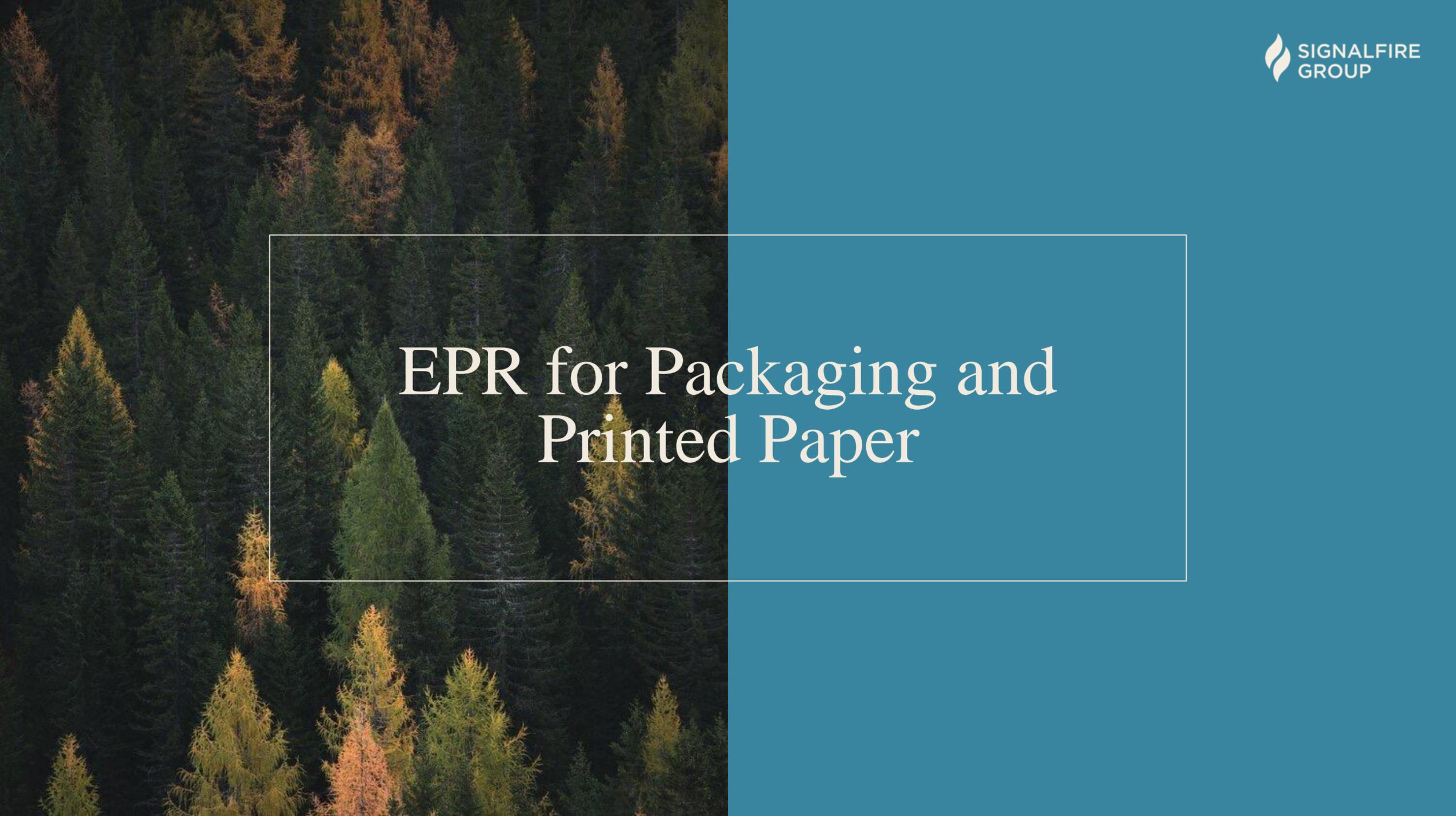
Does EPR Increase Recovery? E-Scrap Example

2020** E-WASTE COLLECTION (LBS PER CAPITA)



*State has an e-waste landfill ban [according to ERI](#)
 **MD data is from 2018, VA, OK, & RI data is from 2019, CO data is from 2021
 Source: ERCC (EPR States); State websites (non EPR states)

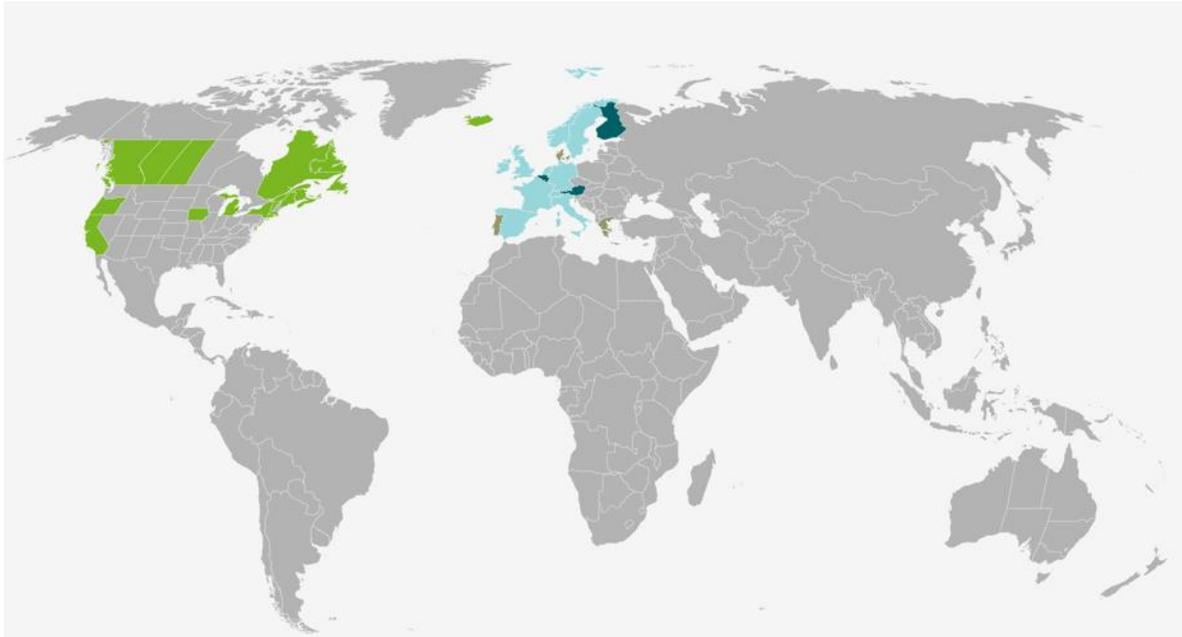
Note: This chart presents available data on program performance but does not provide an “apples to apples” comparison as the covered products and entities (e.g., residents, businesses, schools, etc.) vary from state to state.



EPR for Packaging and Printed Paper

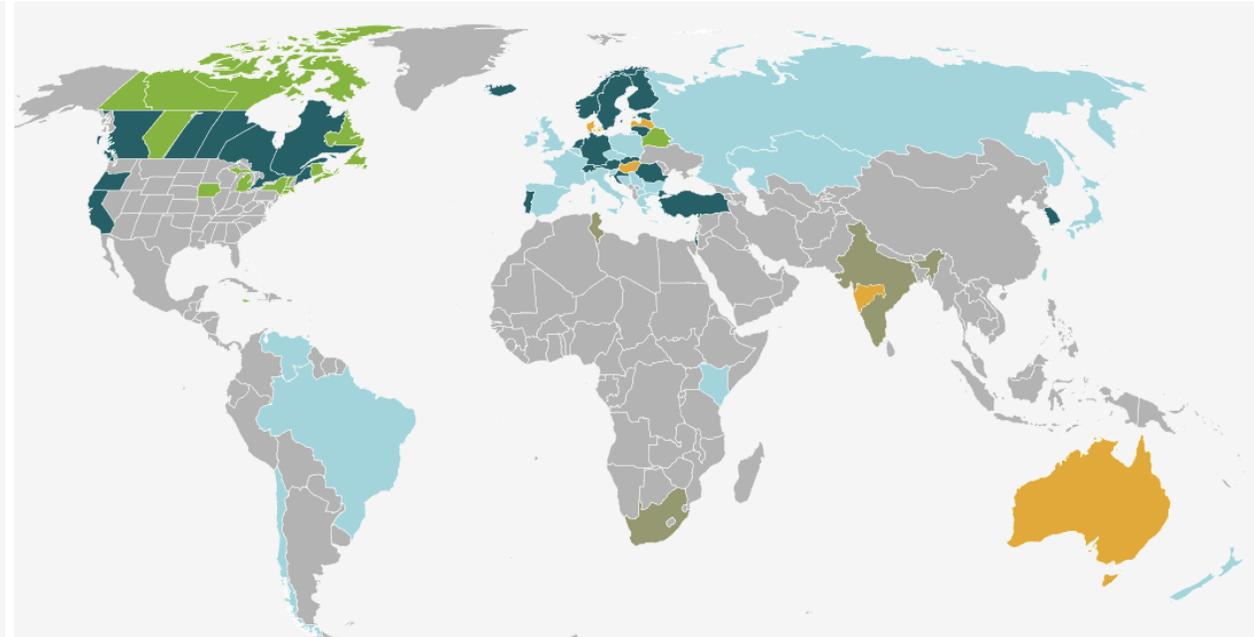
DRS & EPR for Packaging and Printed Paper

2000



- No EPR
- Beverage Container Deposit
- EPR
- EPR + Beverage Container Deposit

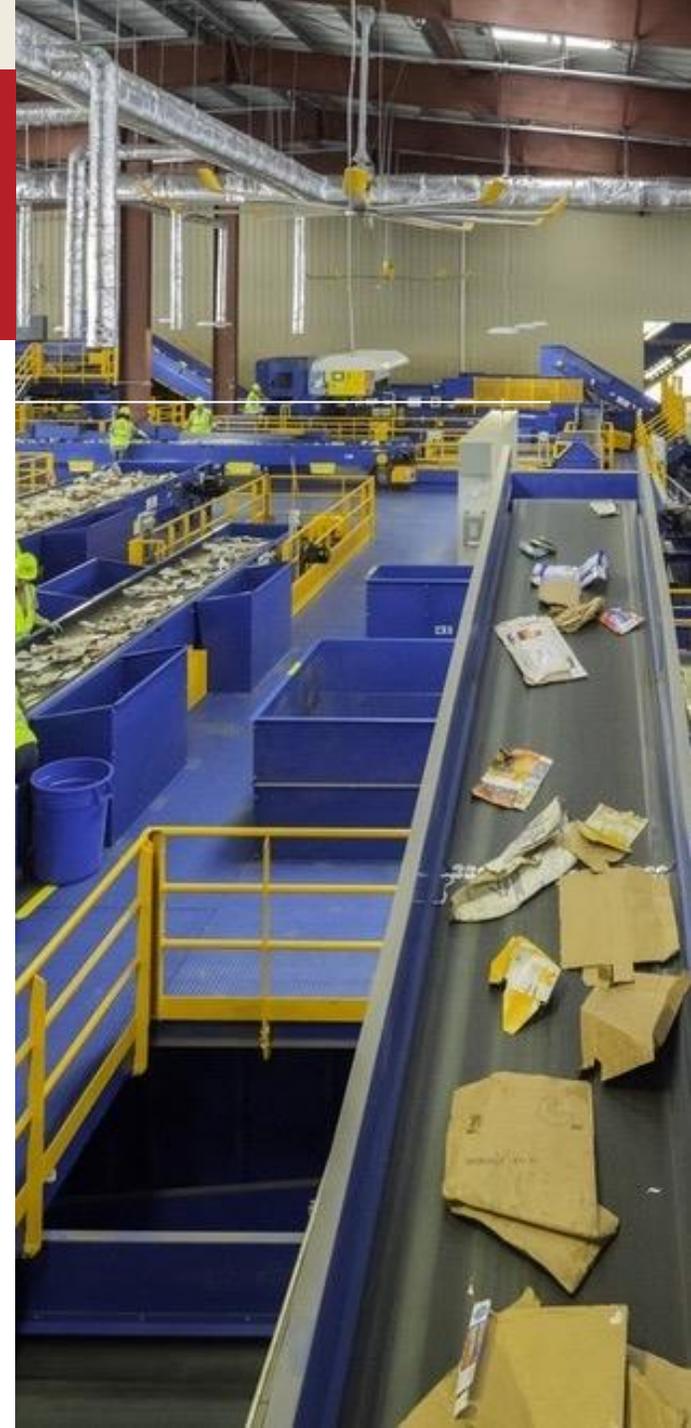
2022



- Voluntary EPR, Packaging Tax, or Other
- Voluntary EPR, Packaging Tax, or Other + Beverage Container Deposit

Drivers for Printed Paper and Packaging (PPP) EPR

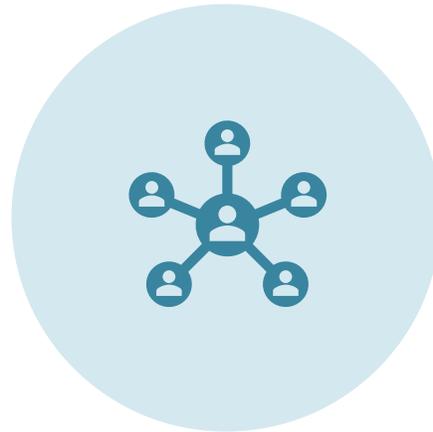
- Need for stable funding
- Market challenges
- Focus on circular economy
- Stagnant recycling rates



Common Features of EPR for PPP Programs



Created by
legislation
establishing rules
and targets

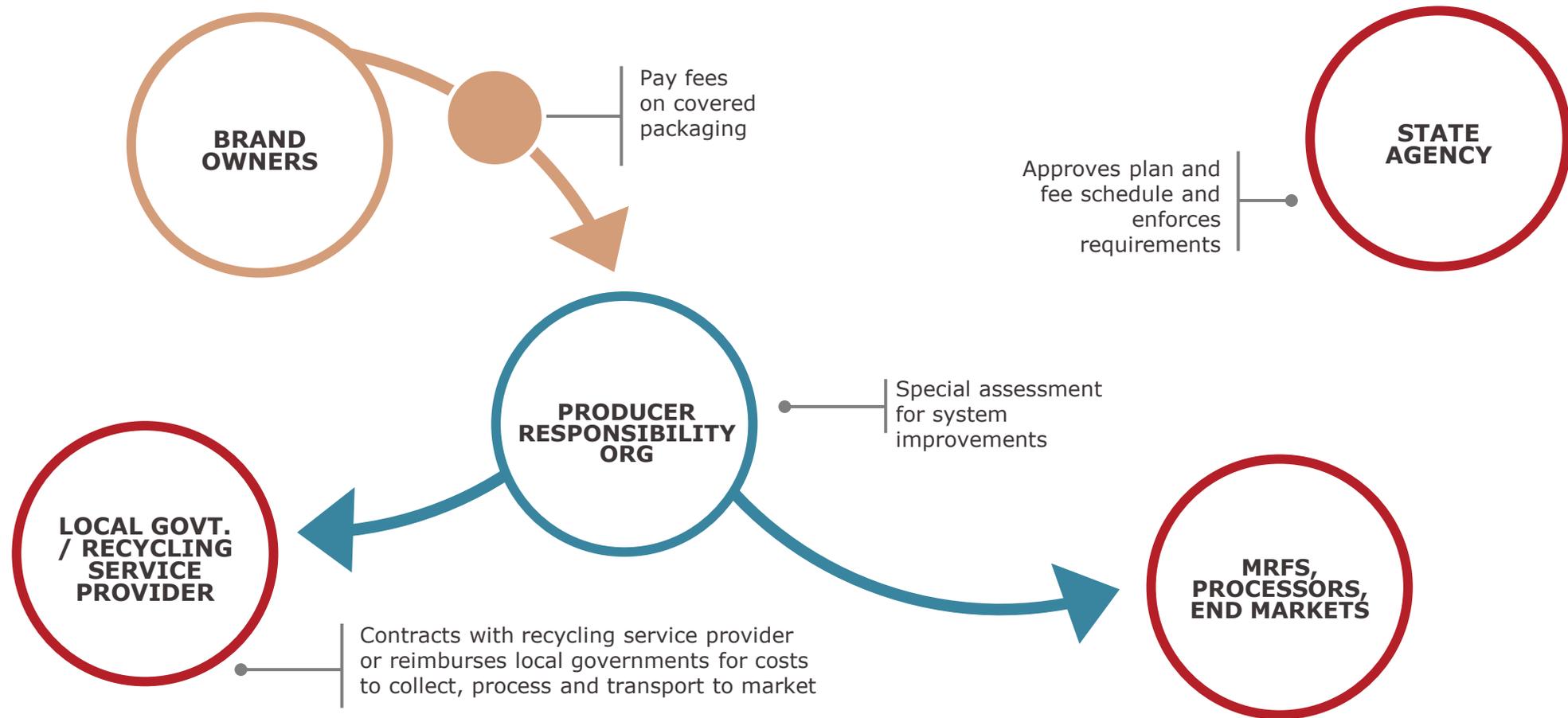


Managed by one or more
Producer Responsibility
Organizations (PRO)



Guided by a
Program Plan

Roles and Responsibilities in EPR for PPP Programs

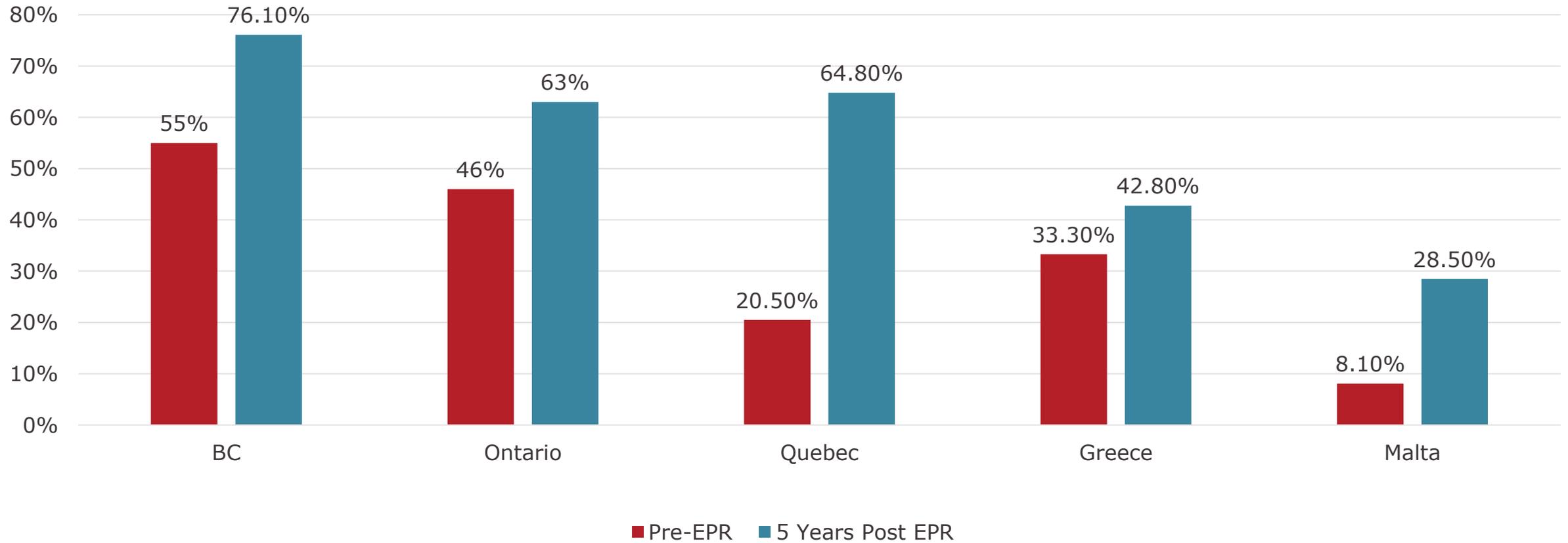


Key Questions about EPR for PPP

- Will EPR improve recycling rates?
- Will EPR stabilize recycling markets?
- Will EPR increase the costs of groceries/package goods?
- Will EPR improve the recyclability/design of packaging?



Impact of EPR for PPP on Recycling Rate



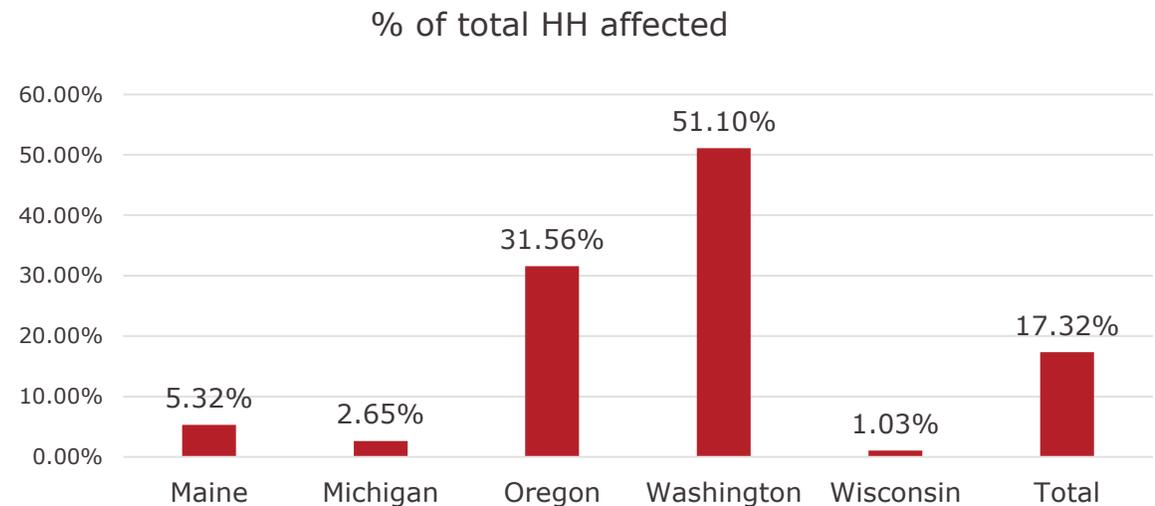
Impact of EPR for PPP on Recycling Market Stability

INDICATOR: CHANGES TO RECYCLING PROGRAMS

Canada

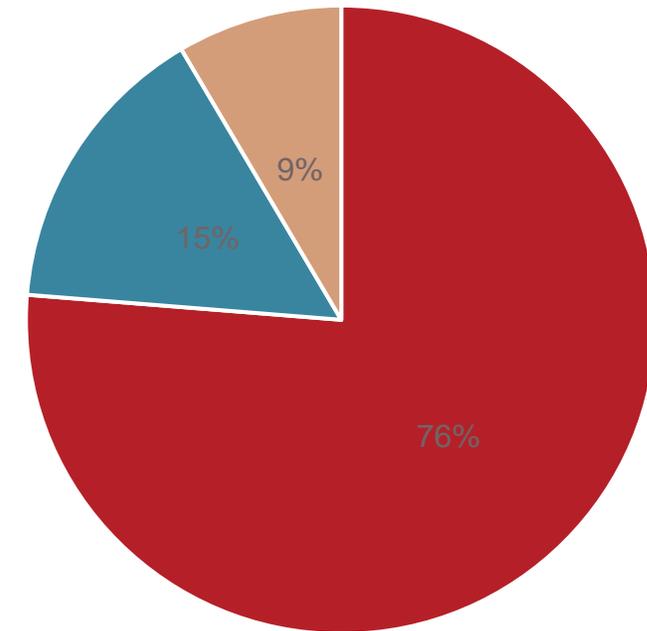
- EPR Provinces did not show meaningful changes in programs
- Alberta saw reduced access in 35% of Recycling Program Areas

Select US States



Impact of EPR for PPP on Product Pricing: Outcomes

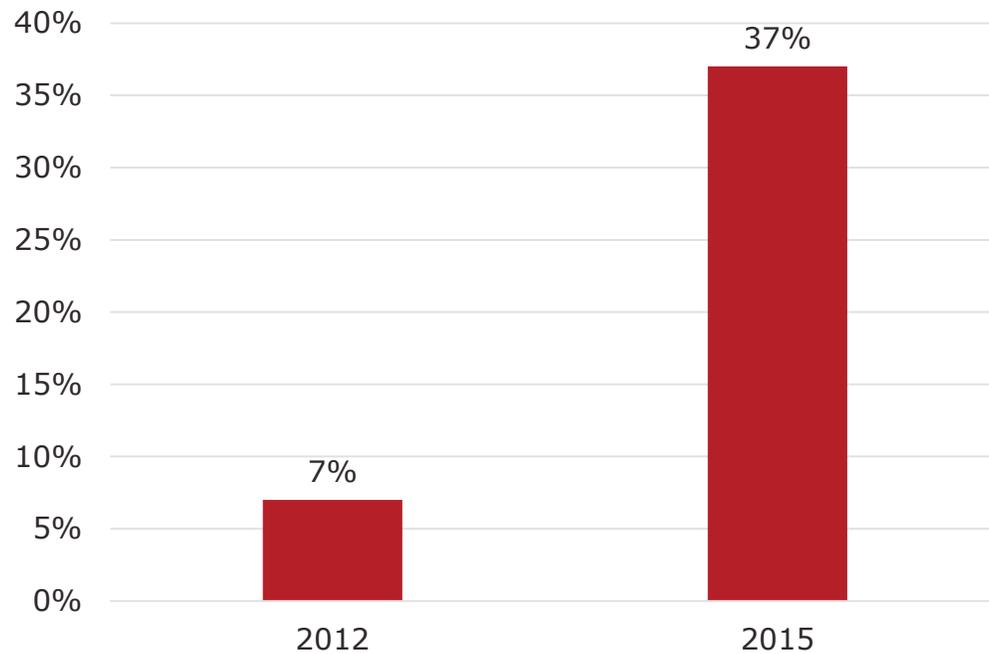
	Number of products	%
Prices equal in communities studied	90	76%
Higher price in communities in provinces without EPR for PPP	18	15%
Higher price in communities in provinces with EPR for PPP	10	9%
Total	118	100%



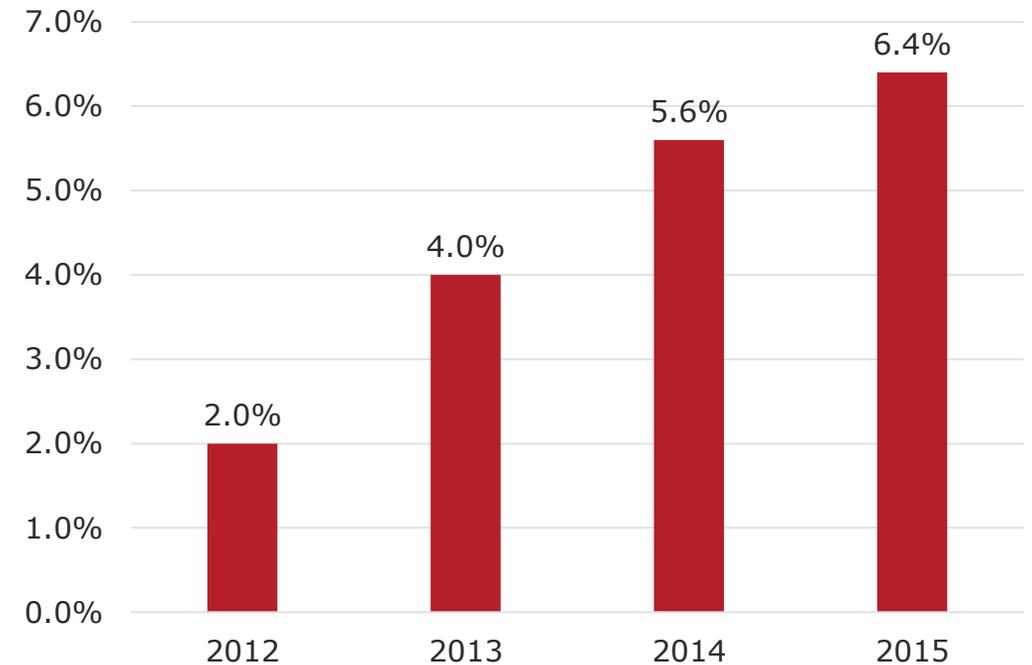
- Prices equal in communities studied
- Higher price in communities in provinces without EPR for PPP
- Higher price in communities in provinces with EPR for PPP

Impact of EPR for PPP on Product Design: Bonuses

Increase in Packaging with Sorting Instructions

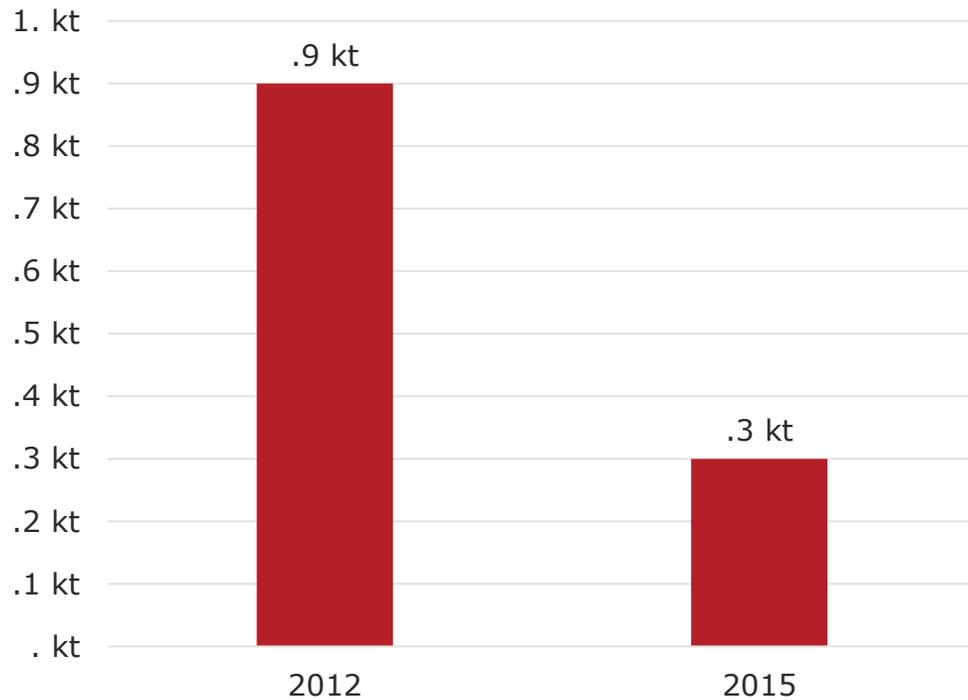


Percent of Packaging (by weight) Receiving Source Reduction Incentive

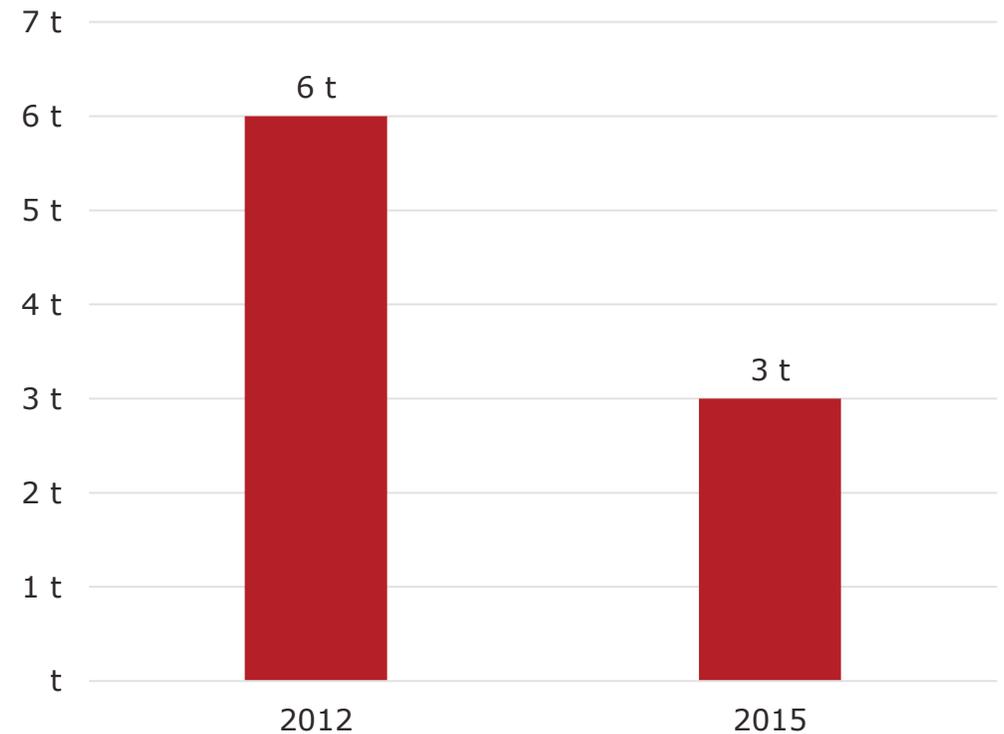


Impact of EPR for PPP on Product Design: Disruptors

Decrease in Clear PVC Bottles



Decrease in PET bottles with Aluminum



CITEO



Challenges in Implementing EPR



EPR Challenges: Changing Roles

APPROPRIATE ROLES FOR STATE AND LOCAL GOVERNMENTS

PROPER BALANCE OF RESPONSIBILITY, AUTHORITY AND ACCOUNTABILITY

What decision making authority is appropriate for producers/funders?

What accountability is required by local governments/funding recipients?

INDUSTRY ENGAGEMENT

Drivers for EPR Moving Forward

- Government budget challenges continue
- Market challenges/export restrictions hamper growth in recovery
- Circular economy capturing attention of business leaders
- Even the most active/aggressive states and local governments are not making significant progress





Questions?



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