

Task Force to Tackle Plastics

Governor Gina M. Raimondo



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International (EPI)

Jamestown, RI

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ENVIRONMENTAL PACKAGING INTERNATIONAL



- Founded in 1998 by Victor Bell in Jamestown, Rhode Island
- A consultancy specializing in environmental compliance, product stewardship, and sustainability issues related to packaging, batteries, electronics, and other products
- Offers a full range of customized regulatory tracking, research and compliance management
- Assists many clients with integrating aspects of environmental compliance such as data collection, fee calculation and reporting into their supply chain management, product design process and other business systems



Victor Bell, President

Environmental Packaging International (EPI)

ABOUT EPI



Specialists in global environmental packaging & product stewardship requirements

Our clients include:



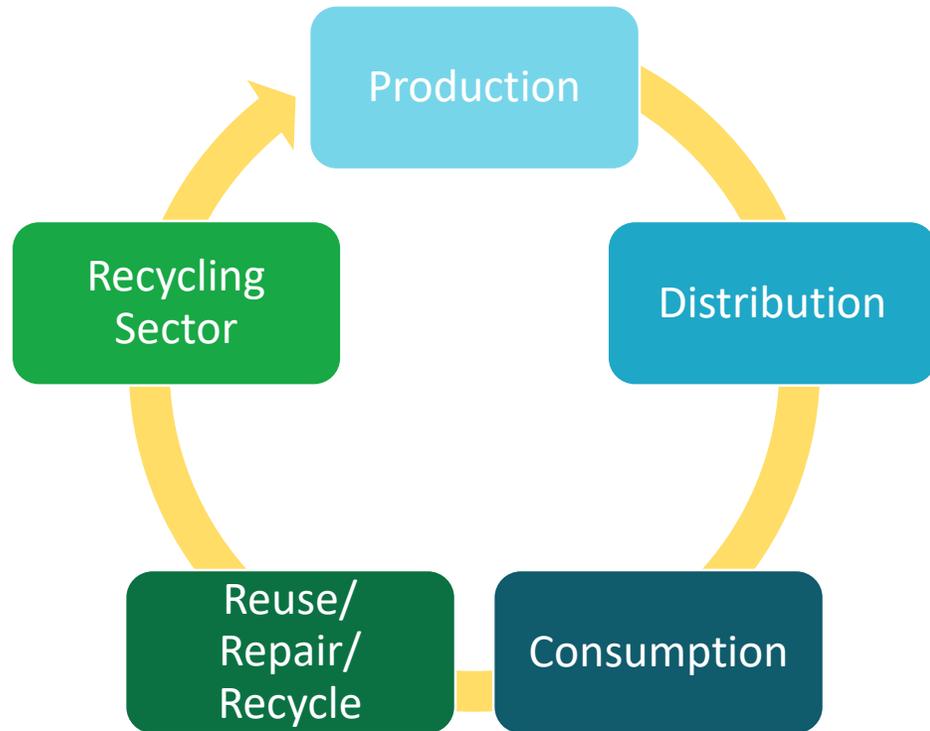
GLOBAL ACTION ON SINGLE- USE PLASTICS



WHAT IS A CIRCULAR ECONOMY?



Traditional Linear Economy:



Circular Economy:

A Circular Economy model requires a change in our current production and consumption system – **packaging and products are designed with a recyclable or reusable end-of-life in mind.**

The goal of a Circular Economy is to keep resources circulating for as long as possible, through a more efficient use of production resources, more durable and repairable designs and increased recyclability.

EUROPE: CIRCULAR ECONOMY INITIATIVES



EU Circular Economy Package:

The Circular Economy Package went into effect on July 4, 2018:

- **70%** of all packaging waste be recycled by **2030**
- **100%** of plastic packaging be recyclable by **2030**

UK Plastics Pact:

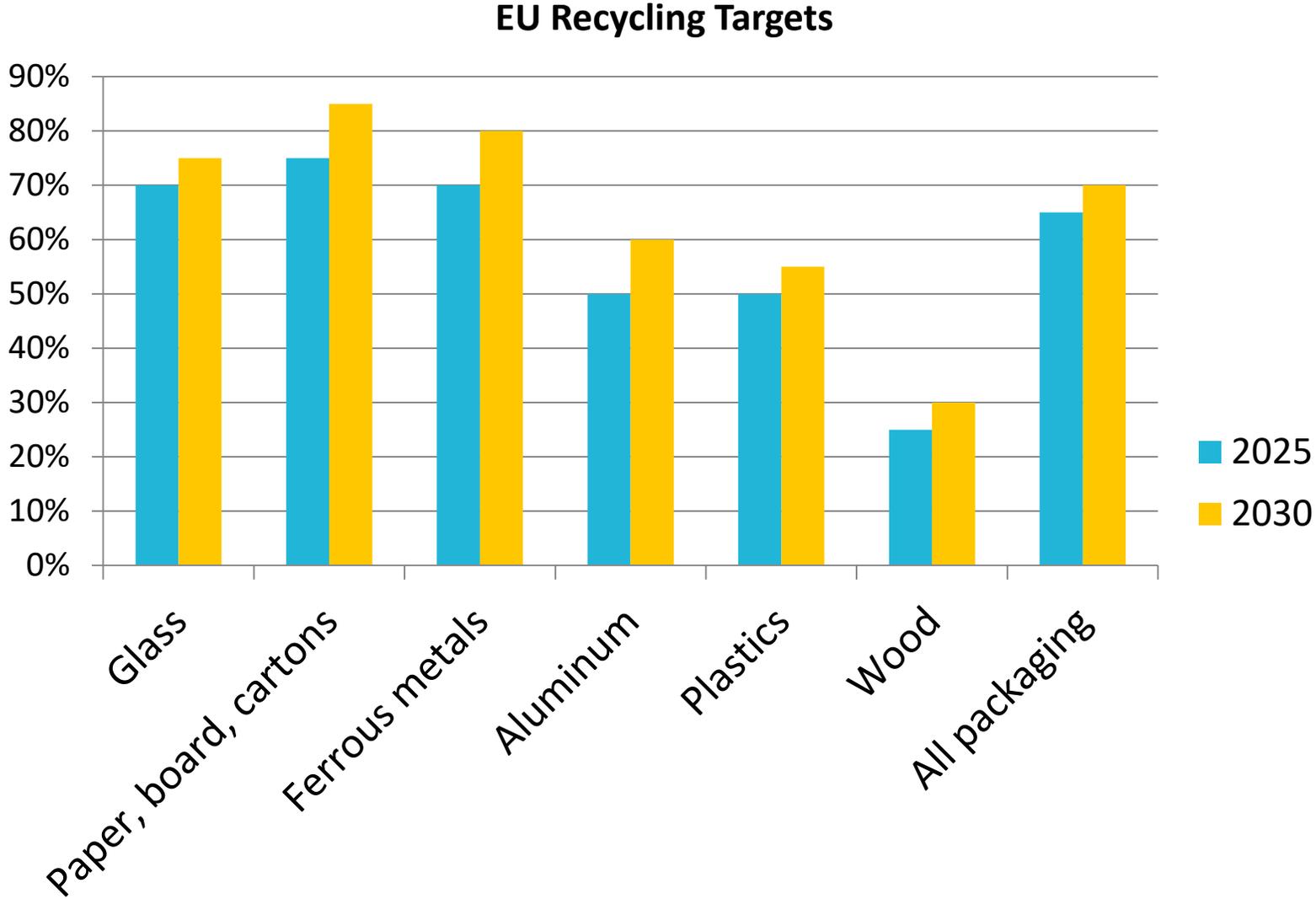
The UK Plastics Pact was delivered on April 26, 2018 by the Waste and Resources Action Program (WRAP) and will create a circular economy for plastics with established **2025** goals:

- **100%** of plastic packaging will be reusable, recyclable or compostable
- **70%** of plastic packaging will be effectively recycled or composted
- **30%** average recycled content across all plastic packaging
- Problematic or unnecessary single-use packaging items will be eliminated through redesign, innovation or alternative (reuse) delivery methods

EU RECYCLING TARGETS



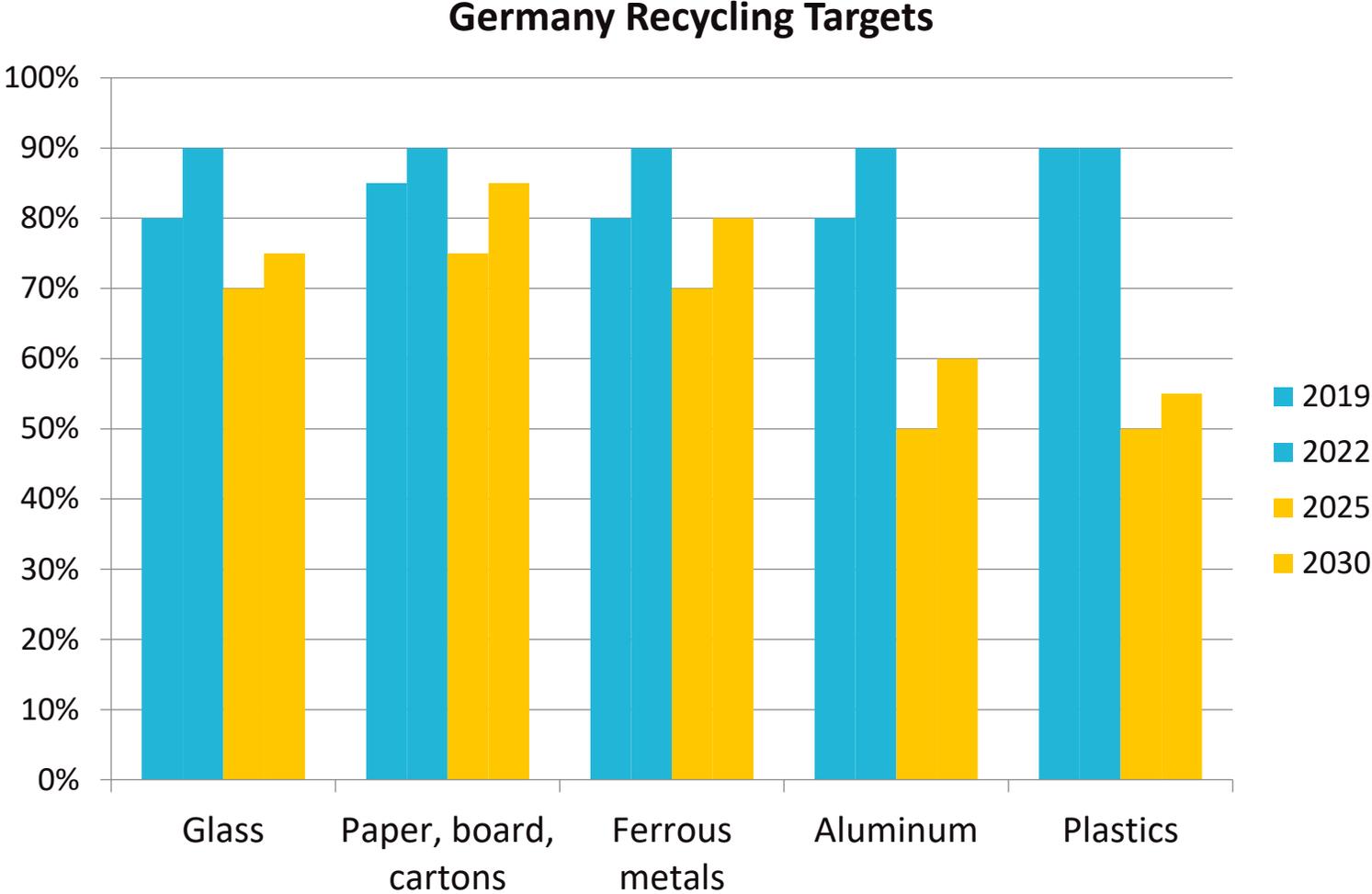
EU Recycling Targets		
	2025	2030
Glass	70%	75%
Paper, board, cartons	75%	85%
Ferrous metals	70%	80%
Aluminum	50%	60%
Plastics	50%	55%
Wood	25%	30%
All packaging	65%	70%



GERMANY RECYCLING TARGETS



Germany Recycling Targets		
	2019	2022
Glass	80%	90%
Paper, board, cartons	85%	90%
Ferrous metals	80%	90%
Aluminum	80%	90%
Plastics	90%	90%
Beverage Cartons	75%	80%
Other Composites	55%	70%



Blue bars: Germany's targets (set 6/8 years ahead of EU targets)

Yellow bars: EU's targets (for 2025 and increasing in 2030)

CHINA SWORD



China launched “**Operation Green Fence**” in 2013, aimed at reducing waste importation and contamination in recyclable materials.

In 2017, China instituted its **National Sword** policy - as of January 1, 2018, China banned the import of many recyclable materials and lowered the contamination rate for accepted recyclables to 0.5% (a typical material recovery facility (MRF) reach contaminant rates of 3-5%).

- In August 2018, China also imposed tariffs on many recyclables from the US, including cardboard, other recovered fiber, metals and plastics
- 24 types of solid waste and recyclables have been banned from import, including mixed paper, plastics 3-7, metals, etc.
- As a result, recyclable materials are piling up with no foreseeable market

On July 11, 2018, China released a proposal to expand import bans to cover every form of “solid waste” from import – no set date of implementation, but expected in 2020.

As of August 24, 2018, Rhode Island Resource Recovery Corporation (RIRRC) “has stopped shipping material to China and diverted recyclables to other international and domestic markets... [T]he influx of material to the marketplace has significantly driven down the price of recyclable commodities. Mixed paper, for example, which sold for approx. \$95/ton in June 2017 was selling for -\$28/ton at its lowest point this year... [T]his substantial reduction in revenue will most likely result in an operating loss at our MRF in FY 2019.”

CHINA SWORD, CONT.



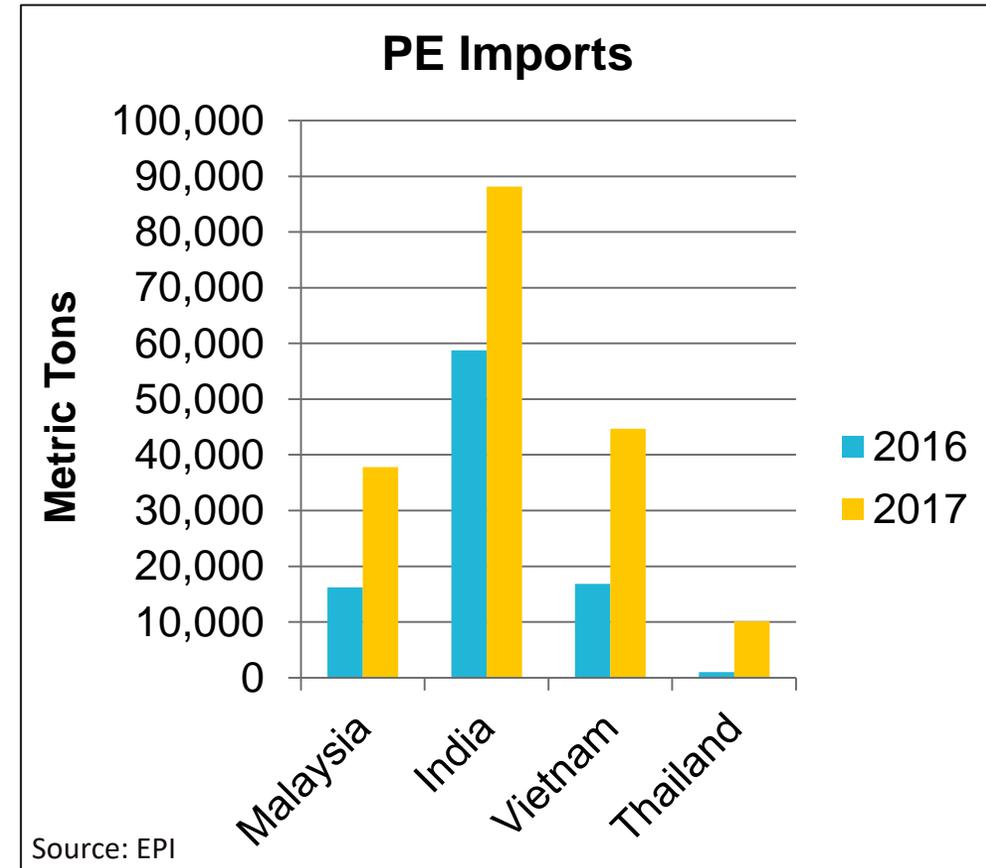
Due to China's National Sword policy, exports have been shifting to Southeast Asian countries, such as Vietnam, Malaysia and Thailand.

However, these countries do not have the recycling infrastructure necessary to handle this influx of materials, and import terminals have been stockpiling scrap materials.

As a result, **many of these countries have begun to impose their own import bans/restrictions:**

- Malaysia and Vietnam have stopped issuing new import permits for certain materials
- Thailand plans to ban all plastic scrap imports within two years
- Malaysia will impose an import tax on scrap plastics and tighten permit requirements

China's new policies have been affecting other countries' domestic recycling infrastructures and EPR systems, leading to higher recycling/collection targets and national goals to create cleaner recycling streams (i.e. single-use plastics bans/restrictions).



BASEL CONVENTION MAY LEAD TO GLOBAL IMPORT BANS



Many developed world countries are experiencing effects due to National Sword import bans:

- Surplus of recyclables growing at collection points with no clear market
- Recyclable materials are either difficult to decontaminate or lacks recycling infrastructure to handle material types
- Excess feedstock has led prices to plummet, financially impacting recyclers

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention) has long focused on the ban on an international movement of hazardous wastes, including hazardous recyclables.

Due to the effects of National Sword, industry experts believe that Convention parties will soon vote to implement rules banning the movement of such materials – proposed amendment would reclassify plastic scrap, from “non-hazardous” waste to a new category that requires special consideration before exporting to other countries.

BASEL CONVENTION MAY LEAD TO GLOBAL IMPORT BANS, CONT.



This looming “**Basel ban**” will help countries develop more circular economies, and is expected to lead to more EPR obligations in order to build the domestic infrastructure necessary to handle recyclable materials.

It will lead to new strategies to handle materials, such as waste-to-energy (which has become increasingly acceptable since National Sword).

The Basel ban would also impact elements such as international product and packaging design and material choices.



BASEL CONVENTION

*the world environmental
agreement on wastes*

NEW PLASTICS ECONOMY GLOBAL COMMITMENT



The New Plastics Economy Global Commitment, led by the Ellen MacArthur Foundation and in collaboration with UN Environment, was officially announced on October 29, 2018.

- The Global Commitment has been signed by 250 packaging producers, brands, retailers, recyclers, governments and NGOs – **companies representing 20% of all plastic packaging produced worldwide**

Targets:

- **Eliminate** problematic or unnecessary plastic packaging; transition from single-use to reuse packaging models (essential)
- **Innovate** to ensure 100% of plastic packaging is recyclable, reusable or compostable by 2025
- **Circulate** plastics produced by significantly increasing the amounts of plastics that are reused or recycled and made into new packaging/products

Targets will be reviewed every 18 months and become increasingly ambitious

- **Signers will publish annual data of progress toward targets**



NEW PLASTICS ECONOMY GLOBAL COMMITMENT



The New Plastics Economy began in 2018 and continues to rapidly expand – in the beginning of October 2018, the number of signatories was 16.

- **72** retailers, packaged goods companies, hospitality and foodservice companies and packaging producers
- **9** raw material producers
- **28** collection, sorting and recycling industry members
- **8** durable goods producers
- **5** investors
- **2** packaging industry suppliers
- **12** governments and cities
- **154** endorsers

An infographic with a teal background. At the top, it reads '100% reusable, recyclable or compostable plastic packaging by 2025' in white and dark blue text. Below this, it says 'FOLLOW THEIR LEAD' and features the 'NEW PLASTICS ECONOMY' logo. The bottom section displays logos for 16 signatory companies: amcor, Danone, The Coca-Cola Company, COLGATE-PALMOLIVE COMPANY, Nestlé, PEPSICO, rb, Unilever, M&S, Walmart, and WERNER & MERTZ. To the right of these logos are the flags of Australia, France, and the United Kingdom.

100% reusable, recyclable or compostable plastic packaging by 2025

FOLLOW THEIR LEAD

NEW PLASTICS ECONOMY

amcor Danone The Coca-Cola Company COLGATE-PALMOLIVE COMPANY

ecover evian innocent L'ORÉAL M&S MARS incorporated

Nestlé PEPSICO rb Unilever Walmart WERNER & MERTZ

Australia France United Kingdom

Source: Ellen MacArthur Foundation New Plastics Economy

The Ellen MacArthur Foundation (EMF) was launched in 2010 “to accelerate the transition to a circular economy.”

Due to EMF’s new definition of “recyclable”, many companies committed to the New Plastics Economy goals may struggle to meet their 2025 goals (especially for companies in the US, where there is no funding for infrastructure).

The definition of “recyclable” is as follows:

- **A packaging or packaging component is recyclable if its successful post-consumer collection, sorting and recycling is proven to work in practice and at a scale**
- **Recyclable if over 95% of packaging weight is recyclable and minor components are compatible with recycling process and do not hinder recyclability of main components**
- **Take into account design, manufacturing processes and ways of using, disposing and collecting the packaging**

NPE SIGNATORIES



BUSINESSES

a. Packaged goods companies, retailers, hospitality and food service companies, packaging producers

Ahold Delhaize

ALBEA

Algramo

ALPLA Werke Alwin Lehner GmbH & Co KG

Amcor

Arca Continental

BioPak Pty Ltd

Burberry Group Plc

Carrefour

Coca-Cola FEMSA

Colgate-Palmolive Company

Constantia Flexibles

CupClub Limited

Danone SA

Delphis Eco

Diageo

Dynapack Asia

LOLIWARE

L'Oréal

Marks and Spencer plc

Mars, Incorporated

Matrix APA (UK) Ltd.

METRO AG

MIWA (Minimum Waste)

Mondi

NATURA COSMETICS

Nestlé

Paccor packaging solutions

PepsiCo

Pernod Ricard

POSITIV.A

PT Evogaia Karya Indonesia

RB

RePack

Replenish Bottling LLC

rPlanet Earth

SC Johnson

Schwarz Group

NPE SIGNATORIES



Earthwise
Ecopod
ecostore
Essity AB
EXCELRISE
gDiapers
Greiner AG
H & M Hennes & Mauritz AB
Henkel AG & Co. KGaA
Inditex
innocent drinks
Internet Fusion Group
JAMES CROPPER PLC
Johnson and Johnson Consumer Inc.
Kellogg Company
Kesko Corporation
Logoplaste

Sealed Air corporation
Selfridges
Skipping Rocks Lab
SPB
Spinlock
Splosh Ltd.
Stella McCartney
Swire Beverages Ltd
Target Corporation
The Better Packaging Co.
The Bio-D Company Ltd
The Coca-Cola Company
The New Zealand King Salmon Company Ltd
Unilever
Walmart U.S., Walmart Canada, Walmart Mexico,
and Sam's Club
Werner & Mertz GmbH
Woolworths Holdings Limited

NPE SIGNATORIES



b. Raw material producers

Aquapak Polymers Limited
Borealis AG
Ecovative
Full Cycle Bioplastics
Indorama Ventures Public Company Limited
mobius
NatureWorks
Novamont SpA
Origin Materials

e. Investors

Althelia Sustainable Ocean Fund
Closed Loop Partners
Creolus
Fifth Season Ventures
FORWARD.one Venture Capital for Hardware

f. Supplier to the packaging industry

UPM Raflatac
Verstraete in mould labels

NPE SIGNATORIES



d. Durable goods producers

Ernesto São Simão Lda.

Mobike

HP Inc

Philips

Preserve

Riversimple Movement Ltd

Schneider Electric

Stanley Black & Decker

GOVERNMENTS AND CITIES

City of Austin, TX, US

Government of Chile

City of Copenhagen

Government of France

Government of Grenada

Ministry of Environment New Zealand

Ministry of Environment Peru

Ministry of Environment and Energy Transition of Portugal

Scottish Government

Environment Department, Ministry of Environment, Energy and Climate Change, Republic of Seychelles

Government of the United Kingdom

The Walloon Government

NPE SIGNATORIES



c. Collection, sorting and recycling industry

APK AG

Boomera

Cedo

CSSA (Canadian Stewardship Services Alliance Inc.)

Ecoiberia Reciclados Ibericos SA

EGF - Environment Global Facilities

Encorp Pacific (Canada)

Hera Group

INCOM RECYCLE Co. Ltd. Beijing

Industria Mexicana de Reciclaje S.A. de C.V.

JAMES CROPPER PLC

LIPOR - Intermunicipal Waste Management of Greater Porto, Portugal

Loop Industries

Mr. Green Africa

PetStar

Plastic Bank

PLASTIC ENERGY

Recycling Technologies

Re-Poly, Evertrak, QRS

Rubicon Global

SUEZ

TerraCycle

TOMRA Systems ASA

TriCiclos

Veolia

Waste Ventures India Pvt. Ltd.

Waste4Change

Worn Again Technologies

MOST COMMON OCEAN POLLUTION ITEMS



According to the **Ocean Conservancy 2018 Cleanup report** “Building a Clean Swell”, the top 10 items collected from global ocean cleanups are:

1. Cigarette butts
2. Food wrappers
3. Plastic beverage bottles
4. Plastic bottle caps
5. Plastic grocery bags
6. Other plastic bags
7. Straws and stirrers
8. Plastic takeout containers
9. Plastic lids
10. Foam takeout containers

Enough **plastic bottles** to fill over 5 standard swimming pools

Enough **straws** to reach the height of over 10,000 palm trees

Enough **plastic bags** to sew 5,461 sails

Enough **bottle caps** to cover 645 surf boards

An especially prevalent issue in Rhode Island – a state that is just 48 miles north to south, with over 400 miles of coastline.

PLASTIC POLLUTION REPORT: TOP CONTRIBUTORS



In 2018, Break Free From Plastic member organizations engaged nearly 10,000 volunteers in 239 cleanups in 42 countries on 6 continents, collecting over 187,851 pieces of plastic pollution.

- Break Free From Plastic is a global movement launched in September 2016, and nearly 1,300 groups have joined the movement “to demand massive reductions in single-use plastics and to push for lasting solutions to the plastic pollution crisis”

Teams catalogued companies when collecting plastic pollution and found that top polluters worldwide are Coca-Cola, PepsiCo, Nestlé, Danone, Mondelez International, P&G, Unilever, Perfetti van Melle, Mars Incorporated and Colgate-Palmolive.

- Coca-Cola, PepsiCo and Nestlé accounted for 14% of all branded plastic pollution

The report reinforces the need for corporations to accept responsibility for the full life cycle impacts of their products and packaging (such as with EPR schemes).

- Increasingly important, as the report also notes that the Center for International Environmental Law predicts that plastic production will increase by 40% over the next decade

PLASTIC POLLUTION REPORT: TOP CONTRIBUTORS, CONT.



Top worldwide polluters:



Source: #breakfreefromplastic Branded Report

**EXTENDED PRODUCER
RESPONSIBILITY: A GLOBAL
SOLUTION**



PACKAGING AND PRODUCT RECYCLING LEVIES



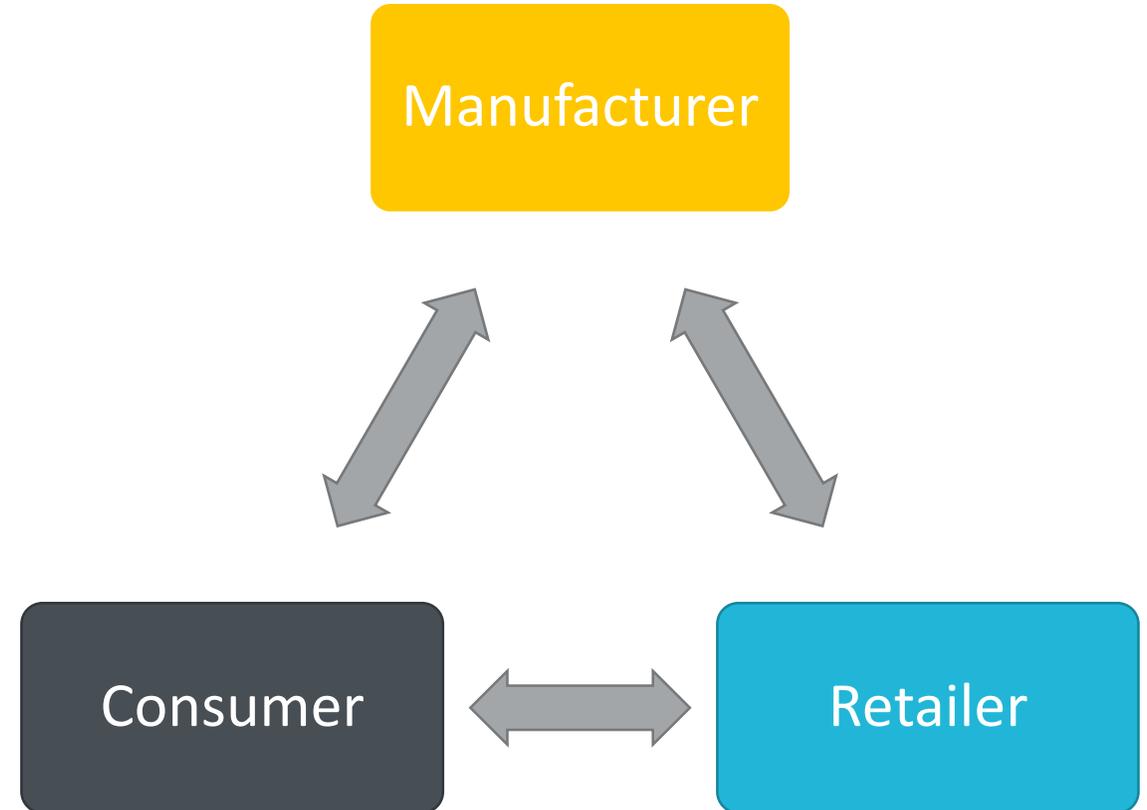
- The main purpose of Extended Producer Responsibility (EPR) funding is to build infrastructure for collecting materials to be recycled
 - Countries with EPR have more advanced recycling programs and technology
 - EPR subsidizes recycling markets
- In many countries around the world, companies must pay levies on all product packaging and on the products they sell
- The levies are designed to fund recycling efforts
- Packaging levies started in Germany in the early 1990s (der Grüne Punkt or Green Dot) and quickly spread to all European countries
- The compliance driver is the EU Packaging and Packaging Waste Directive
- More recently packaging levies have spread to other countries around the world
- The issue is referred to as green dot fees, packaging and product levies or EPR (Extended Producer Responsibility)



EXTENDED PRODUCER RESPONSIBILITY



- Producers responsibility at post-consumer stage.
- Responsibility shift:
private industry → “producers”
- Programs contain mandated recycling targets.
- Incentive to design for low impact.
- Packaging & Products are impacted by other global legislative requirements, such as Design, Labeling, Recycled Content, etc.



PACKAGING EXTENDED PRODUCER RESPONSIBILITY (EPR)

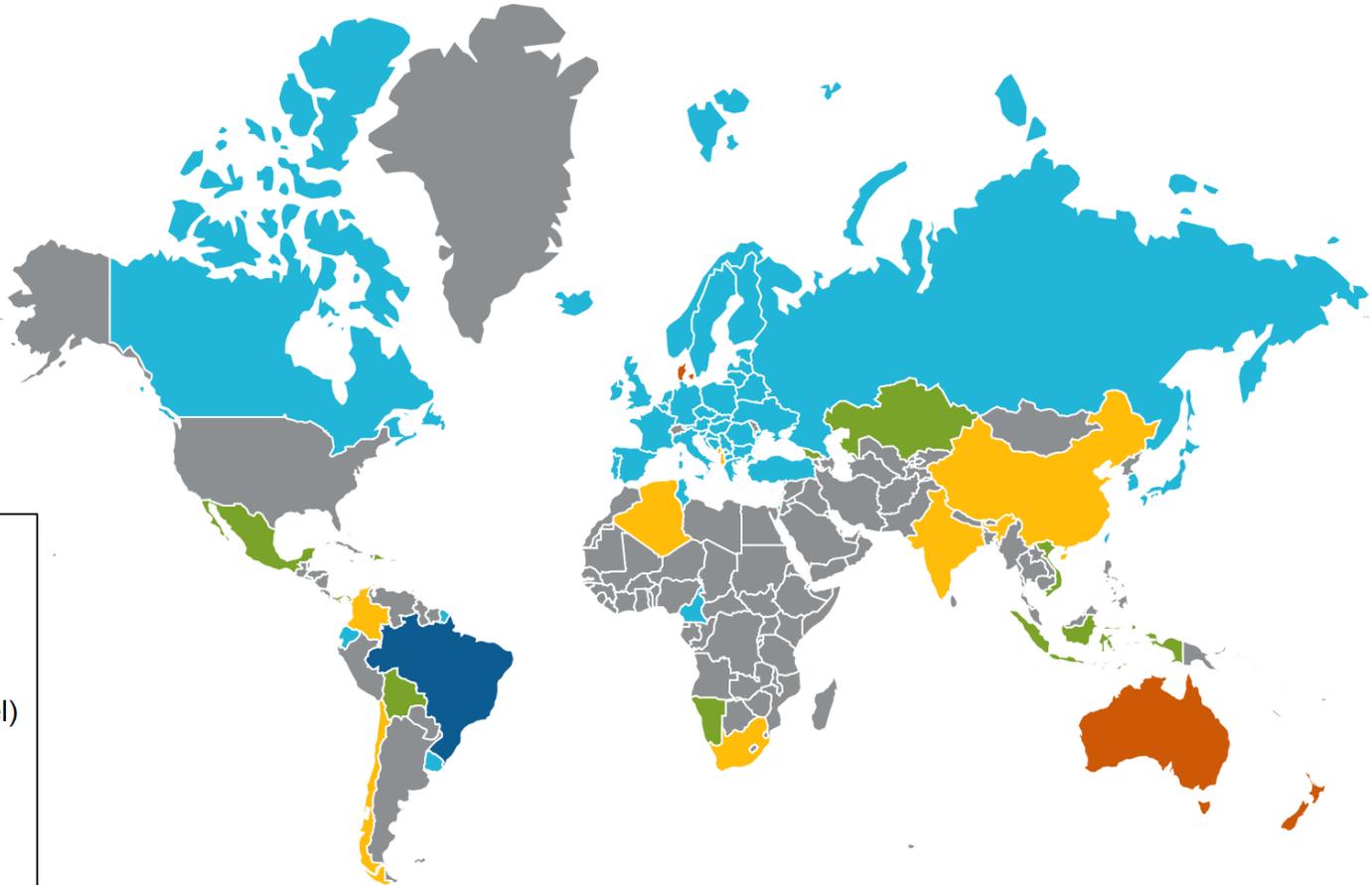


Fees on all packaging and certain plastic products paid by manufacturers; used to develop recycling infrastructure and encourage recycled content.

Packaging EPR in 2000



Packaging EPR in 2019



- Mandatory EPR in Effect
- Voluntary EPR in Effect
- EPR in Effect (province-level);
In Implementation (country-level)
- In Implementation
(India and China expected by 2022)
- Framework EPR Legislation

Source: EPI



GLOBAL EPR TRENDS



- Requirements around EPR expanding globally; new leaders in EPR emerging:
 - Brazil, Russia, China, India
 - South East Asia
 - Eastern Europe
 - South America
- Moving to 100% producer responsibility
- More communication between country programs
- Higher fees and penalties for non-compliance
- **Linking marine debris to EPR**
- New product categories (SUPs)

EPR EXPECTATIONS THROUGH 2030: OVERVIEW



Europe

- The new Circular Economy Package and the amended Packaging & Packaging Waste Directive as part of the CEP have set new material-specific recycling targets for packaging materials through 2030
- EPR fees will increase over the years in order to meet these targets – expected to double and become more granular in the next 2-5 years

China

- EPR program will be developed by 2020, with full system implementation by 2025
- A 50% recycling rate target for 2025 will help determine fees on a material basis

India

- Also expected to have EPR systems implemented by 2020
- A ban on all single-use plastics nationwide by 2022 will influence fees

North America

- Canadian fees are increasing – especially in Ontario
- New draft plastic EPR programs being proposed in WA and other West Coast states

WASHINGTON BILL FOR EPR



On January 16, 2019, HB 1204 “Concerning the responsible management of plastic packaging” was introduced in Washington.

- States that China’s bans on importing plastic packaging waste “emphasize the need for socially and environmentally responsible management and disposal of plastic packaging”

Would make producers of plastic packaging responsible “for the design and management of their packaging in a manner that ensures minimal social and environmental impacts.”

If the bill passes, producers of plastic packaging may not sell or distribute plastic packaging in the state of Washington unless they are participating in a plastic packaging stewardship organization beginning January 1, 2022, with plans submitted to the department by a stewardship organization by June 1, 2021.

HB 1204 has been referred to the Committee of Environment & Energy.

A similar resolution in New Jersey, SCR 136, was introduced on September 17, 2018 and referred to the Assembly Environment and Solid Waste Committee on November 26.

- Calls on the federal government to “hold manufacturers of single-use plastic products responsible for pollution caused by the use and disposal of those plastic products.”

SINGLE-USE PLASTICS INITIATIVES IN THE USA

Plastic Bag Bans and Fees

Polystyrene Regulations

Bottle Bills



UN REPORT: 66% OF COUNTRIES HAVE SINGLE-USE PLASTIC REGULATIONS



According to a report published on December 6, 2018 by the United Nations Environmental Program and World Resources Institute, 66% of countries worldwide (127 of 192) have "adopted some form of legislation to regulate plastic bags."

The report, "Legal Limits on Single-Use Plastics and Microplastics: A Global Review of National Laws and Regulations", notes that:

- **27** countries have banned specific single-use plastic products, materials (polystyrene) or production levels
- **27** countries have imposed taxes on the manufacture and production of plastic bags
- **30** countries have imposed consumer fees for plastic bags at the national level
- **43** countries have EPR-like schemes for plastic bags
- **63** countries have mandates for EPR for SUPs – “including deposit-refunds, product take-back, and recycling targets”
- **8** countries have banned plastic microbeads on a national level

The report recommends that more countries enact laws that make producers responsible for waste, adopt recycling targets or disincentivize the purchase of plastic products.

BAG AND FOOD SERVICE WARE BANS AND FEES IN THE USA

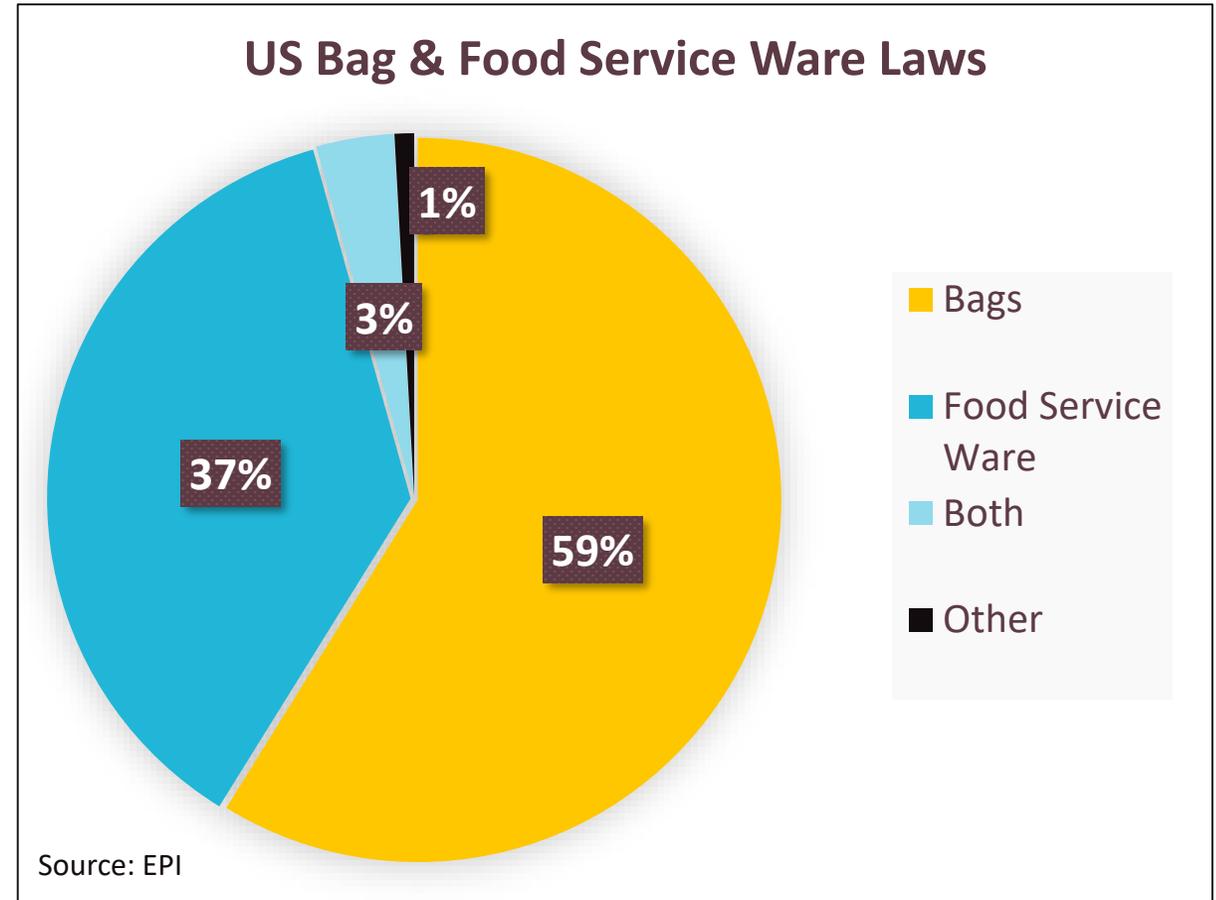


United States (as of January 7, 2019):

- The US has approximately 616* laws placing restrictions/fees on plastic bags, straws, cutlery and expanded polystyrene (EPS) food service ware
- Approximately 59% apply to plastic bags, 37% to EPS and/or straws, 3% to both

States with 5 or more municipal/local plastic bag/EPS/straw/cutlery regulations:

- | | | |
|-----------|----------|---------|
| • 9 AK | • 110 MA | • 10 RI |
| • 243 CA* | • 12 MD | • 11 SC |
| • 9 CO | • 34 ME | • 10 TX |
| • 5 CT | • 32 NJ | • 30 WA |
| • 23 FL | • 32 NY | |
| • 6 HI | • 18 OR | |



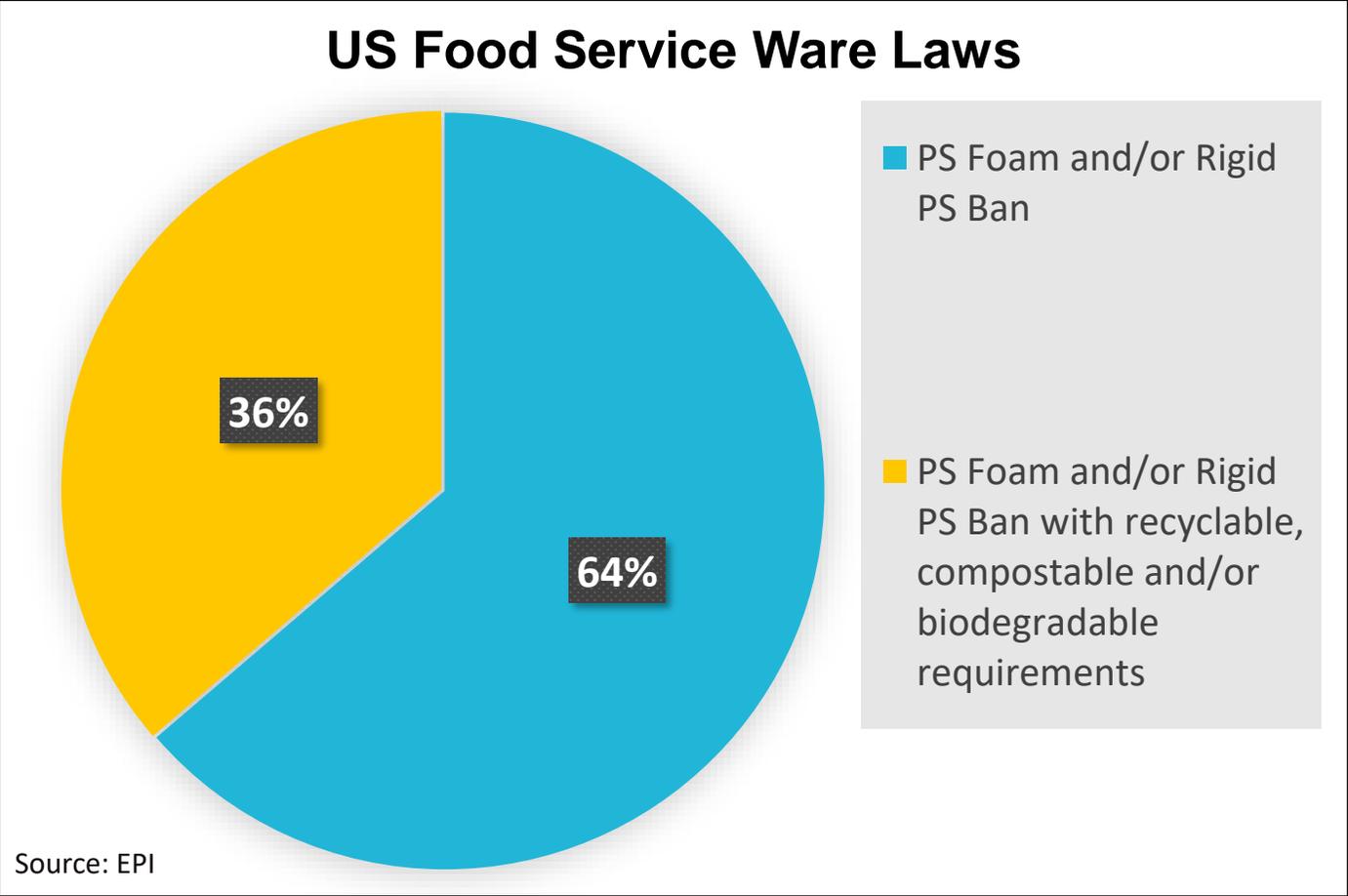
* Note that total count includes local/municipal regulations that may be superseded by a state-wide plastic bag ban

PLASTIC BAG & FOOD SERVICE WARE LAWS IN THE USA



Of the approximately 236 laws in the US restricting the use of PS foam and/or rigid PS packaging, approximately 36% include recyclable, compostable and/or biodegradable requirements.

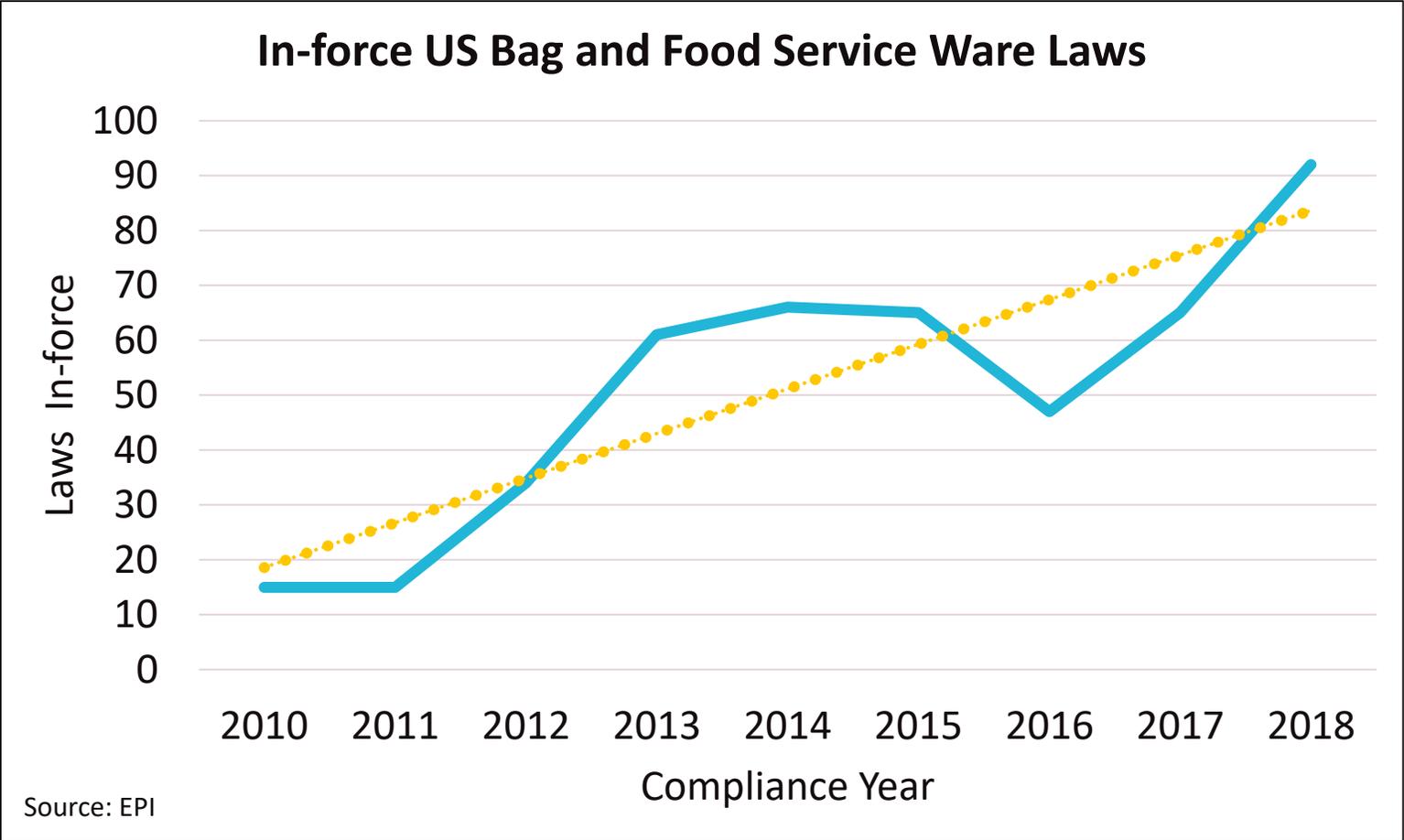
NOTE: Compostable/biodegradable requirements not recommended by EPI.



PLASTIC BAG & FOOD SERVICE WARE LAWS IN THE USA, CONT.



Since 2010, the number of plastic bags and food service ware laws coming into force in the US appears to represent a steadily increasing trend.



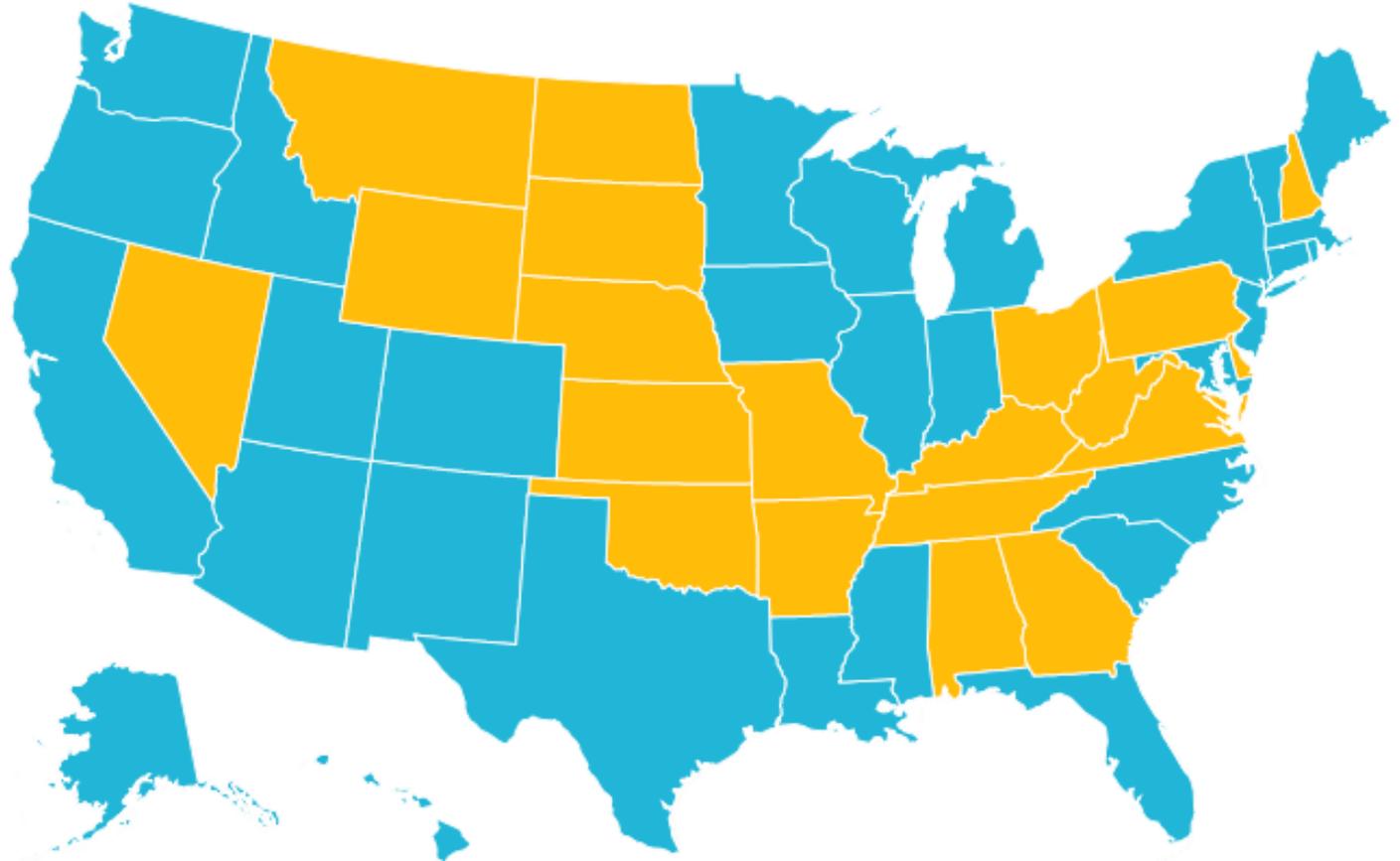
BAG AND/OR EPS BANS AND/OR FEES IN THE USA



States with “Bans on Local Bans”

(laws preventing local governments from enacting plastic bag bans/fees):

- Arizona
- Florida
- Idaho
- Iowa
- Michigan
- Minnesota
- Missouri
- Wisconsin



Source: EPI

■ Plastic bag/eps bans/fees in place

■ No bans/fees

USA: 616* locals laws within 30 states

** Total count includes local/municipal laws that may be superseded by state-wide legislation (ex. CA)*

RHODE ISLAND BAG LAWS



Bag legislation in the following cities/counties:

- Barrington
- Bristol
- Jamestown
- Middletown
- New Shoreham
- Newport
- North Kingston
- Portsmouth
- South Kingstown
- Warren
- Pending in Narragansett and Tiverton

NOTICE



NO PLASTIC BAGS!

In an effort to provide environmental stewardship to our community, effective JANUARY 1, 2019, South Kingstown retailers will be banned from providing single-use plastic carryout bags. The Town stands ready to assist all South Kingstown businesses, residents and visitors in their efforts to promote a healthy and sustainable environment.

*Let's keep South Kingstown beautiful and green!
Bring your reusable bags everywhere you shop!*

In accordance with Chapter 3, Article VII of the Town Code of Ordinances



FOR MORE INFORMATION PLEASE VISIT THE
TOWN OF SOUTH KINGSTOWN WEBSITE OR CALL
THE RECYCLING COORDINATOR AT 789-9331 EXT. 2259

<https://www.southkingstownri.com>

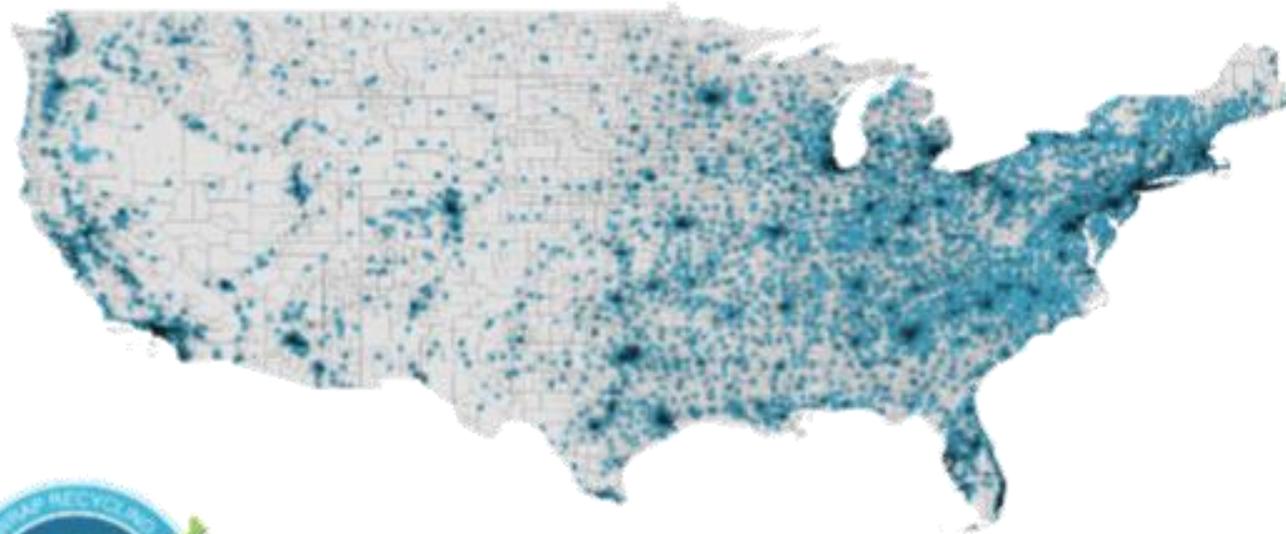




Film Drop Off Locations Availability

Current US Film Dropoff Coverage: 90.3%

Locations are dropping. Retailers are a great support to communities and MRFs when they help divert film from curbside stream.



NOTE: It is critical for plastic bag bans to require retailers to continue collecting the material – unintended consequences of existing bag laws are for retailers to drop film collection.

CONTAINER DEPOSIT LAWS AND BOTTLE BILLS



As of September 2018, 25 countries have beverage container deposit laws – mostly in Europe.

The trend has been to increase bottle deposit laws and to broaden the scope of accepted containers – many programs have been adding water, sports drinks and other plastic containers to their accepted materials list.

Areas with bottle bills in place have typical capture rates of materials (largely PET) that are significantly higher than in areas without deposit legislation.

Bottle Recycling in Rhode Island:

Note: RIRRC does not track bottle recycling rates in Rhode Island.

RI House Bill 7193 “Plastic Bottle and Container Labeling Act”, a Democrat sponsored bill, was introduced in 2016 and withdrawn four months later at sponsor’s request.

- Would have placed a 5 cent deposit on every beverage container (“any sealable bottle, can, jar, or carton which is primarily composed of glass, metal, plastic or any combination of those materials”) sold



CONTAINER RECYCLING STATISTICS



- **1 billion** containers littered in the US each year
- **8 million+** metric tons of plastic enters our oceans annually
- Recycling rates for disposable plastic bottles must be **at least 90%** to be considered sustainable
- By 2029, EU member states must collect **90%** of single-use plastic bottles with caps and lids – deposit return schemes suggested to achieve this
- Soon, nearly **600 million people** around the world will live in locations with container deposits

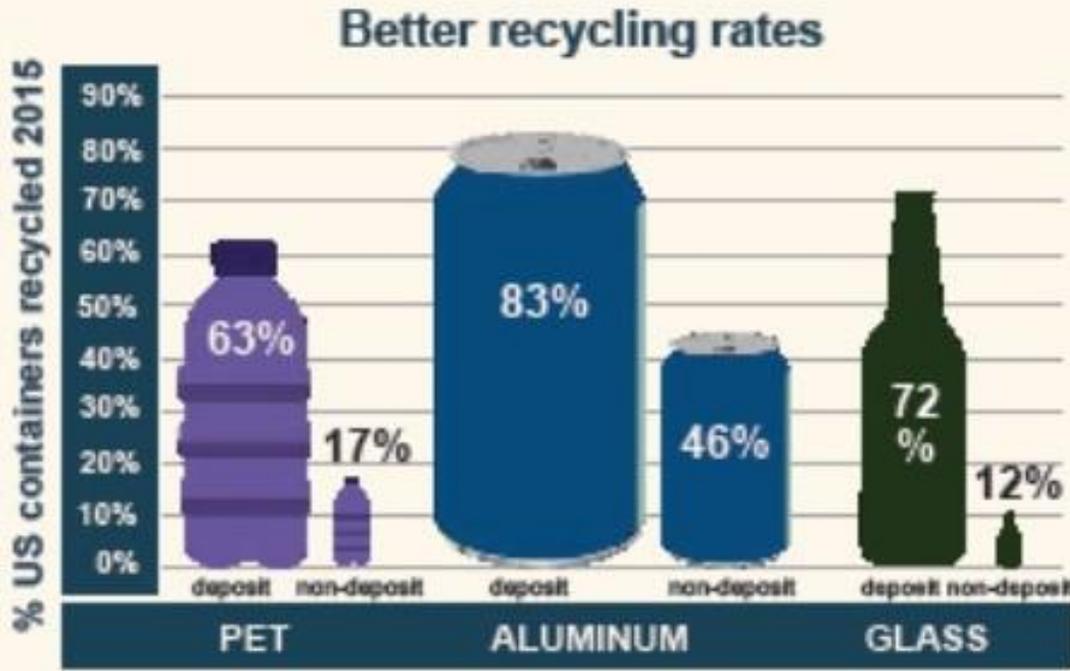
According to the Container Recycling Institute (CRI), states with bottle bills see:

- More jobs in recycling
- Reduced GHG emissions and energy use due to less virgin materials used during manufacturing
- “Dramatic” reductions in litter and marine debris
- More high-quality scrap materials
- “Extra income for consumers, charities and community groups”

CONTAINER RECYCLING STATISTICS, CONT.



Container Deposits: The Rock Stars of Recycling



Source: 2016 Beverage Market Data Analysis, Container Recycling Institute, 2017

Source: NACOR/APR 2016 Annual Report

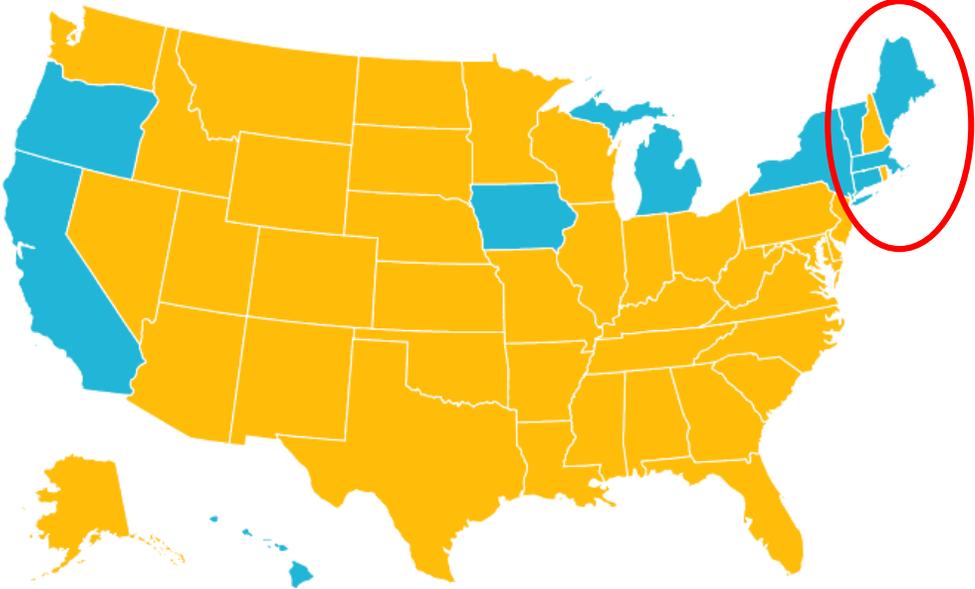
Source: Container Recycling Institute

CONTAINER DEPOSIT LAWS AND BOTTLE BILLS, CONT.



11 US states/territories with bottle bills:

- California
- **Connecticut**
- Hawaii
- Iowa
- **Maine**
- **Massachusetts**
- Michigan
- New York
- Oregon
- **Vermont**
- Guam



4 of 6 New England states have bottle bills

	Bottle bills in place
	No bottle bills

Source: EPI

MOST SUCCESSFUL BOTTLE BILLS



STATE	DEPOSIT	OVERALL COLLECTION IN 2017
CT	5¢	50.7%
MA	5¢	56.8%
HI	5¢	65%
NY	5¢	65%
IA	5¢	71%
OR*	10¢ (as of April 1, 2017 - previously 5¢)	73.3%
CA	5¢ under 24 oz; 10¢ above	75%
VT*	15¢ liquor; 5¢ all others	75%
ME*	15¢ wine/liquor 50mL or more; 5¢ all others	84%
MI	10¢	91.2%

Higher deposits = higher collection rates

*Up from 2016 rate of 63.4%, when deposit was 5¢

*Liquor bottle collection: 84%

*No official reporting mechanism; rate reported by Maine Beverage Assoc.

Source of information: [Bottle Bill Resource Guide](#)

US VS. EUROPE PET BOTTLE COLLECTION/RECYCLING RATES



USA: Third straight year of decline in PET bottles collected for recycling, according to figures released by the American Chemistry Council (ACC) and Association of Plastic Recyclers (APR).

- Down **3.6%** (**1,315,418 tons** in 2016 vs. **1,270,059 tons** in 2017)
- % of bottles collected based on total weight of plastic used to produce new bottles:
 - **29.7%** in 2016 vs. **29.3%** in 2017

Volume of virgin and recycled PET resin used to make new bottles declined by 4%, attributed in part to bankruptcy of M&G Polymers USA.

Report identifies a limited availability of quality PCRs to domestic reclaimers as challenges to the plastics recycling market.

Europe: PET bottle collection up from previous year, according to ICIS and Petcore Europe PET Recycling Survey 2017.

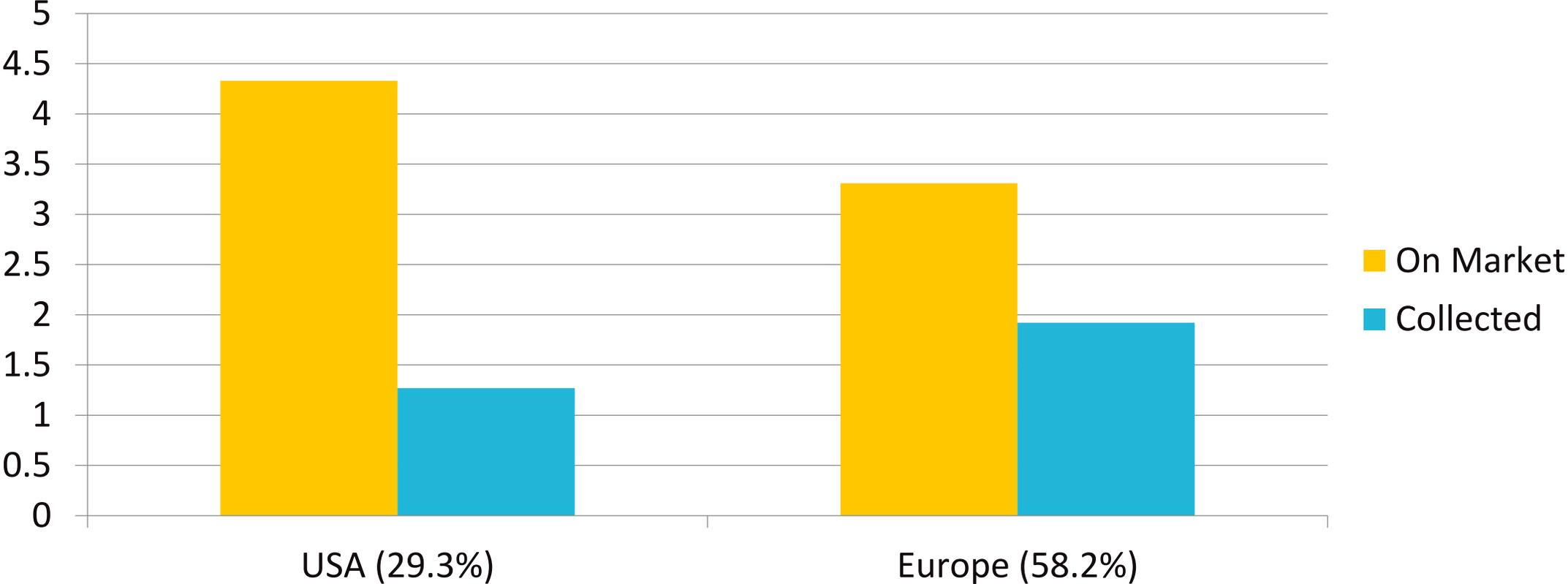
- Up **2.9%** from **2016** – of **3,308,300 tons** of PET bottles placed in European market in 2017, **58.2%** (**1,923,100 tons**) were collected
- High collection rates of **90-95%** in countries like Germany and Finland; **“low” collection rates of 30-40%** in Mediterranean countries and central eastern European countries
 - Varying rates due in part to different methods of waste collection and sorting

Max capacity in Europe to process 2,038,100 tons of PET – unused capacity of 296,400 tons in 2017 caused by factors such as quality of collected PET and insufficient quantity of collection.

US VS. EUROPE PET BOTTLE COLLECTION/RECYCLING RATES, CONT.



PET Bottle Rates in 2017 (in million tons)



SUMMARY OF SINGLE-USE PLASTIC BANS

- Single-Use Plastics (SUPs) have been under heavy attack everywhere
- New EU Directive will pass before the election and will be a threat to the EU single market rules
- China and India moving aggressively in this area
- US cities and state adding new laws every day
- Use of recycled content is now part of most country/company design requirements
 - Current lack of recycled materials to meet such requirements



STATE INITIATIVES: RECYCLED CONTENT REQUIREMENTS



California:

- Rigid plastic packaging containers (RPPCs) must meet one of three criteria:
 - Contain 25% post-consumer materials
 - Be source reduced by 10%
 - Be refillable or reusable
- Loose fill polystyrene required to be made of 100% recycled content
- Foodservice providers must use only recyclable or compostable food packaging in parks, fairgrounds, state beaches and state buildings as of January 1, 2021
- Plastic trash bag manufacturers must use at least 10% Actual Postconsumer Material (APCM) by weight

CALIFORNIA PASSES BILLS TO REDUCE PLASTIC WASTE AND POLLUTION



California governor Jerry Brown signed three bills on September 20, 2018, all aimed at reducing plastic pollution.

AB 1884 Food facilities: single-use plastic straws – full-service restaurants “shall not provide a single-use plastic straw to a consumer unless requested by the consumer.” Local jurisdictions are permitted to adopt further restrictions on single-use plastic straws.

SB 1335 Solid waste: food service packaging: state agencies, facilities, and property – food service providers may only use recyclable or compostable food packaging in parks, fairgrounds, state beaches and state buildings as of January 1, 2021.

SB 1263 Ocean Protection Council: Statewide Microplastics Strategy – the California Ocean Waste Protection Council is directed to develop a Statewide Microplastics Strategy in order to protect and conserve ocean ecosystems. The Council will deliver a Strategy to the Legislature by December 31, 2021, and will report to the Legislature with an implementation plan, policy changes or additional research by the end of 2025.

These measures will help California meet its goal of diverting 75% of waste from landfills by 2020. Advocacy groups, such as Californians Against Waste, are calling the passage of these bills the “boldest statement to date on the public health and environmental threat posed by plastic pollution and waste.”

CALIFORNIA: AB 1884



AB 1884 *Food facilities: single-use plastic straws – **full-service restaurants** “shall not provide a single-use plastic straw to a consumer unless requested by the consumer.” Local jurisdictions are permitted to adopt further restrictions on single-use plastic straws.*

According to the law’s text, a “**full-service restaurant**” is defined as:

An establishment with the primary business purpose of serving food, where food may be consumed on the premises, and where all of the following actions are taken by an employee of the establishment:

- The consumer is escorted or assigned to an assigned eating area. The employee may choose the assigned eating area or may seat the consumer according to the consumer’s need for accommodation or other request
- The consumer’s food and beverage orders are taken after the consumer has been seated at the assigned seating area
- The food and beverage orders are delivered directly to the consumer
- Any requested items associated with the consumer’s food or beverage order are brought to the consumer
- The check is delivered directly to the consumer at the assigned eating area

PLASTICS FOUND IN HUMAN BODIES



A researcher from the Medical University of Vienna tested stool samples of 8 healthy people for microplastics and found that all 8 had particles of most common plastics (including PP and PET) present – about 20 particles per 10 grams of stool.

- "Highly likely that during various steps of food processing or as a result of packaging, food is being contaminated with plastics"

Smallest particles can enter the bloodstream, lymphatic system and possibly the liver – further research is needed to understand the effects on human health.

- Studies have found plastic fibers present in plankton/fish larvae, bottled and tap water, seafoods, honey and salt
 - Bottled water: average of 325 plastic particles in every liter

Some industry experts have identified over 4,000 chemicals potentially present in plastic packaging, 63 of which are identified as dangerous to human health because of potential disruptions to hormones.

<https://www.youtube.com/watch?v=BYiA4V8hMgc>



RHODE ISLAND ACTIONS



Rhode Island was the first state to begin implementing standardized labels on recycling bins through “Recycle Across America” – established during Earth Week 2017.

- Reduced contamination by 18%

Plans to reboot education campaign in spring 2019 to focus on further decreasing contamination.

- A municipal grant program has also been adjusted at a June 2018 board meeting to make it easier to access education funding

Call to action: “recycle everything that is accepted in RI’s mixed recycling program, *but nothing more.*”

- Quality of recyclate is key, especially with National Sword

The image shows a recycling bin label for Rhode Island. On the left, a blue circle contains a white recycling symbol and the text "mixed recycling". To the right, there are images of acceptable items: paper, cardboard, metal cans, glass bottles, and plastic containers. Below these images, it says "empty at a minimum, rinsed whenever possible". A red line separates this from a list of items that do not belong in the bin, each with a red 'no' symbol: no plastic bags, no food residue, no fiber, no paper scraps, no metal, no glass, no plastic hangers, no foam, and no flammable materials. At the bottom, there is a small image of a recycling bin and text providing contact information for more details.

mixed recycling

paper, cardboard (flattened) and cartons only

metal cans, lids and foil only

glass bottles and jars only

plastic containers only

empty at a minimum, rinsed whenever possible

These items do not belong in your recycling bin or cart

- no plastic bags, bags of bags, or recycling inside of bags
- no more than a trace of food or beverage residue
- no fiber that isn't **paper, cardboard or cartons** (e.g. textiles or wood)
- no paper scraps, napkins, tissues, or paper towels
- no metal that isn't a **can, lid, or tin** (e.g. pans)
- no glass that isn't a **bottle or jar** (e.g. drinking glasses)
- no plastic that isn't a **hanger** (e.g. hangers)
- no foam containers
- no containers from flammable materials or oily chemicals

Containers for mixed recycling in Rhode Island vary in color and size. If you're unsure of which container to use, ask your city or town's Department of Public Works, property owner, or property manager.

Follow these guidelines and you'll be a great recycler! If you want to be a SUPER recycler, get more details at RecycleTogetherRI.org. For information on recycling, composting, or disposal of other items, visit RIKRC.org.

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RECOMMENDATIONS



EPR

- Work with other states (i.e. Washington, New Jersey, California, Oregon) on EPR legislation that includes packaging and single-use plastics

Bottle Bill

- Deposits on single-use plastic bottles as well as glass, wine and spirits bottles
- Remove glass from curbside collection to improve the quality of recycle
 - Glass contaminates the stream (broken glass mixes with 30-50% other materials, making it trash)
 - Over 65% of glass would be accounted for in a bottle bill that includes wine and spirits
- Higher deposit = higher collection rate

Plastic Bags

- California's state ban on single-use carryout bags (SB 270), passed in 2016, has been extremely successful
 - Most grocery stores, retail stores with a pharmacy, convenience stores, food marts and liquor stores are not permitted to provide single-use plastic carryout bags to their customers. Instead, they may provide a reusable grocery bag or recycled paper bag at point of sale at a charge of at least 10 cents each
 - September 2017 beach cleanup preliminary data shows that plastic grocery bag litter dropped by 72% since 2010
- Ensure that plastic bag legislation still requires film drop-off locations

RECOMMENDATIONS



EPS

- Enact similar legislation to New York City's new polystyrene ban
 - “As of January 1, 2019, NYC stores, food service establishments and mobile food commissaries may no longer offer, sell or possess single-use foam food containers such as foam takeout clamshells, cups, plates, bowls and trays. Additionally, manufacturers and stores may no longer sell or offer for sale loose fill foam packaging (‘packing peanuts’) in the city.”

Other

- Establish recycled content and design requirements similar to ones seen on the West Coast and EU
 - PCR % requirements
 - Reusability/recyclability requirements
- Consider joining Ellen MacArthur Foundation's New Plastics Economy and becoming the first US state to sign
- Although many municipalities, states and countries have been enacting legislation to make single-use plastic items compostable or biodegradable, EPI recommends against these alternatives
 - Biodegradable packaging can contaminate the recycling stream



Questions?

Please contact Victor Bell with any questions you may have.

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