

# From the Land of Incubation and Innovation: California Plastics and Trash Reduction Policies

## Sixth International Conference on Marine Debris

March 15, 2018

**Miriam Gordon**

UPSTREAM, Policy Director

# About Upstream Policy

**UPSTREAM** works to replace the throw-away society with a culture of stewardship.



# Why Focus on Prevention?



- Marine plastic pollution => **low-value, single-use disposable plastics**
- 80% of land-based marine debris is urban runoff- primarily **to-go food and beverage** packaging, **plastic bags**, and **cigarette butts**
- **Cleanups and control don't stop the problem-** this beach will be littered again, shortly after cleanup

# Why prioritize Disposable Plastic Packaging?

- 26 to 40% of all plastic produced => packaging<sup>1</sup>
- 1/2 of plastic packaging => single-use / disposable<sup>1</sup>
- 1/3 of plastic packaging => ends up in environment<sup>2</sup>



Chris Thompson, EPA

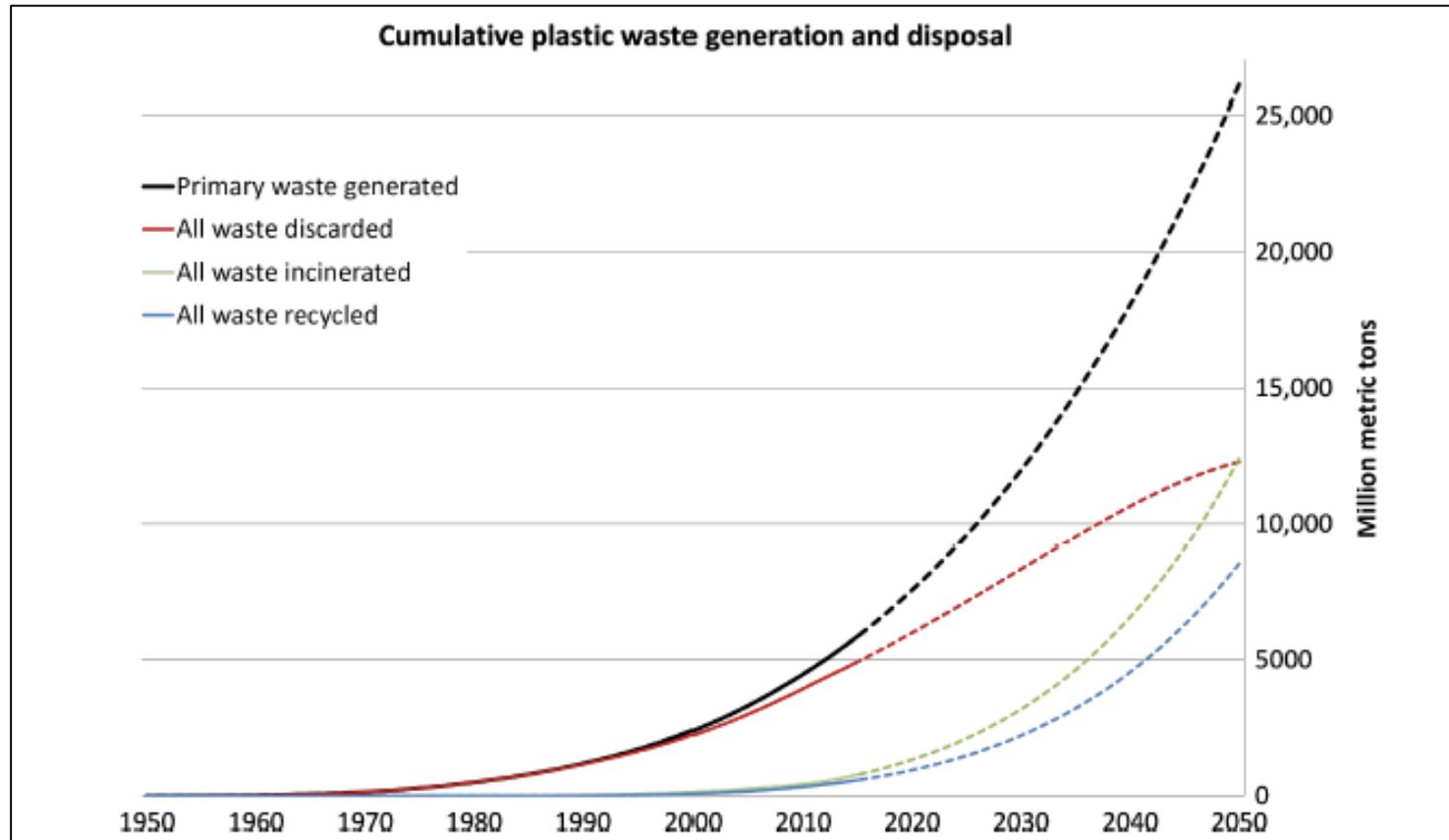
<sup>1</sup> New Plastics Economy. Ellen MacArthur Foundation; <sup>2</sup>Plastics recycling: challenges and opportunities. Hopewell, et Al. Royal Society Biological Sciences

# What's Fueling Plastics Production?

- US shale oil and gas makes plastics cheap
- Industry investing \$164 billion in by 2023 in U.S.<sup>1</sup>
- China investing \$100+ billion over the next 5 years<sup>2</sup>
- Capacity and demand for ethylene and propylene to increase by 1/3 between 2016 and 2025<sup>2</sup>
- Projected demand for increasing disposables from millennials in US and EU<sup>4</sup> and rising income of Global South consumers<sup>5</sup>
- By 2050 => 400% increase in plastic production<sup>6</sup>

<sup>1</sup>American Chemistry Council, <sup>2</sup> *Chemical Engineering* Feb 22, 2017, <sup>3</sup> Mitsubishi Chemical Techno-Research March 2017, <sup>4</sup> SPI, *Plastics Market Watch: Plastics Packaging Wraps it Up*, 2015, <sup>5</sup>Mark Eramo, 2013, *Global Ethylene Market outlook*, <sup>6</sup> Ryan, *A Brief History of Marine Litter Research*,

# What happens if we don't change course?



- Plastic waste generation overwhelming us
- No wonder more plastics than fish in ocean by 2050!
- Bury, burn, recycle are problematic solutions

**Plastic waste generation and disposal (in million metric tons).** Solid lines = 1950 to 2015; dashed lines = projections to 2050. R. Geyer, J. R. Jambeck, K. L. Law, *Production, use, and fate of all plastics ever made*. *Sci. Adv.* 3, e1700782 (2017).

# Two Types of Policy Responses: Reduce/ Prevent Disposables vs. Material Choice

- Depends on the solution
  - Eliminate the plastic or promote reusable durable products?
  - Switching from one disposable material to another can cause greater harm
- Paper, compostable fiber-ware, and bio-based plastics have significant impacts
  - compostable fiber-ware when landfilled has higher GHG impact than many plastics
  - bio-based plastics can have higher GHG impact
  - compostable and bio-based plastics still harm marine life

# A Priority Products Approach to Policy

Good first step, but sources and brands needed to support prevention approach

2017 ICC DATA: 13,840,398 TOTAL

- (13%) **Cigarette butts** #1
- (34%) **Food and beverage packaging** - #2, 3, 4, 6, 7, 8,10
- (31%) **Food and beverage packaging /plastic**
- (6%) **Plastic Bags** grocery + other
- What products should we prioritize? Should we pick single products one or group them?
- *Data fails to identify brands and sources and only looks at macro shoreline litter –*



# BanList 2.0- 5 Gyres

- ICC, NOAA, Clean Ocean Action, Project Aware, and Heal the Bay data
- Plastics only
- Food and beverage packaging – 74% of top 20 items
- Bags – 9%
- Cigarette butts reported as packs of 20
- Published brand data

MEGRED NATIONAL DATASETS: THE TOP 20 PRODUCTS								
PLASTIC PRODUCT	COUNT						TOTAL	%
	ICC	NOAA	MDT	Heal The Bay	COA	Project AWARE		
1 Food Wrappers (candy, chips, etc.)	318880.0	272.0	16315.0	307.0	14827.0	217.0	350818.0	18.6
2 Bottle Caps (Plastic)	273089.0	779.0	11735.0	27352.0	2328.0	205.1	315488.1	16.7
3 Beverage Bottles (Plastic)	206993.0	122.0	7809.0	6297.0	5508.0	289.0	227018.0	12.0
4 Bags (Plastic)	157702.0	39.0	6970.0	5249.0	7871.0	313.0	178144.0	9.4
5 Straws, Stirrers	125635.0	172.0	4645.0	4026.0	8102.0	165.0	142745.0	7.5
6 Lids (Plastic)	75921.0	186.9	409.0	5829.5	15347.0	57.9	97751.2	5.1
7 Utensils	42599.0	33.0	1848.0	47133.0	1864.0	352.0	93829.0	4.9
8 Cigarette Butts*	51550.5	25.3	2337.9	6775.9	643.0	9.1	61341.7	3.2
9 Take Out/Away Containers (Foam)	41805.0	102.9	537.7	17696.0	548.0	8.3	60697.8	3.2
10 Take Out/Away Containers (Plastic)	49973.0	123.0	37.0	5624.0	1021.7	9.9	56788.6	3.0
11 Cups, Plates (Plastic)	48559.0	14.6	732.6	1862.2	1766.0	9.6	52943.9	2.8
12 Cigar Tips	41211.0	47.0	328.0	6243.0	2351.0	16.0	50196.0	2.6
13 Cups, Plates (Foam)	42047.0	12.4	4495.7	690.0	2021.0	8.3	49274.5	2.6
14 Tobacco Packaging/Wrap	33434.0	82.3	604.5	352.0	694.0	19.0	35185.8	1.8
15 Balloons	23492.0	19.0	1442.0	5263.0	480.3	13.0	30709.3	1.6
16 Other Plastic Bottles	17548.0	62.0	1578.0	4769.6	1429.0	9.0	25395.6	1.3
17 Cigarette Lighters	10750.0	24.0	676.5	10750.0	405.0	3.0	22608.5	1.2
18 Personal Care Products (condoms & tampon applicators)	11555.0	37.4	827.5	2213.2	1875.1	14.0	16522.2	0.8
19 6-Pack Holders	8224.0	3.0	180.0	641.0	130.0	10.0	9188.0	0.4
20 Diapers	3938.0	12.5	276.8	2150.6	82.0	7.0	6466.9	0.3
<b>Sum Total</b>	<b>1584905.5</b>	<b>2169.3</b>	<b>63785.2</b>	<b>161223.9</b>	<b>69293.0</b>	<b>1735.1</b>	<b>1883112.0</b>	<b>100.0</b>

\* Counts of cigarette butts were divided by 20 to represent packs rather than individual cigarettes.

# California's Plastic Pollution Laws Enacted

## prevention vs. material choice

### Local Ordinances

- ✓ 150 plastic bag bans, with charge for paper
- ✓ Bans on single-use plastic water bottles in government facilities (SF, SLO)
- ✓ Plastic straw bans with "ask first" policies (Davis, Manhattan Beach),
- ✓ Plastic straw ban includes utensils and stirrers and "ask first" (Malibu)
- ✓ 115 city and county foam food container bans
- ✓ 2 City litter fees: Oakland / convenience stores and SF / cigarettes

### State Policies

- ✓ Ban on plastic bags with a charge for paper- (propelled international movement)
- ✓ Ban on microbeads in personal care products- (propelled international movement)
- ✓ Trash regulations- municipal storm water - zero trash discharge by 2022
  - *Includes a source reduction pathway*
  - *Failed: EPR for trash, polystyrene container ban*

# How California Developed the Hybrid Bag Ban

- 2006 - San Francisco proposed 1<sup>st</sup> local single use bag charge
- Industry response: Progressive Bag Alliance -\$700,000 public relations campaign; American Chemistry Council- \$5.7 million lobbying in CA legislature
- 2006– the Plastic Bag and Litter Reduction Act (AB 2449)
  - in-store bag recycling and **PRE-EMPTED local jurisdiction plastic bag charges**
- 2007- San Francisco passed 1<sup>st</sup> PLASTIC BAG BAN / \$0.10 for paper
- 150 jurisdictions followed
- Industry launched and lost a series of lawsuits
- 2014, SB 270 – first state-wide plastic bag ban- signed into law
- 2016, voters support SB 270 at the ballot box

# Priority Products in the 2018 CA State Legislature

Type of Strategy- Prevention (P); Material (M); Education (E)



- **CONNECT THE BOTTLE CAPS:** AB 2779 (Stone/Calderon) - **P-ish**



- **FOOD PACKAGING Materials-** SB 1335 (Allen) - **M**
- **FOOD PACKAGING Fluorinated Chemicals –** SB 238 (Ting) - **M**



- **BAN CIGARETTE FILTERS-** AB 2308 (Stone) - **P**
- **SMOKING BAN STATE BEACHES and PARKS-** SB 835/836 (Glazer) - **P**



- **STRAWS UPON REQUEST-** AB 1884 (Calderon)- **P/M**



- **MICROFIBER POLLUTION-** AB 2379 (Bloom)- **E**

# Future Vision- Prevention policies for top products

Cigarette filters banned, bottle caps connected

A Solution for Microfibers.... TBD

Prevention for disposable food-ware

- ✓ Charge for take-out cups and containers -
- ✓ On-site dining on re-usables only
- ✓ “Ask-first” for all straws, utensils, stirrers, and no plastic

Food Wrappers and Sachets

- ✓ Eliminate multi-material non-recyclables
- ✓ Move towards bulk packaging not sachets

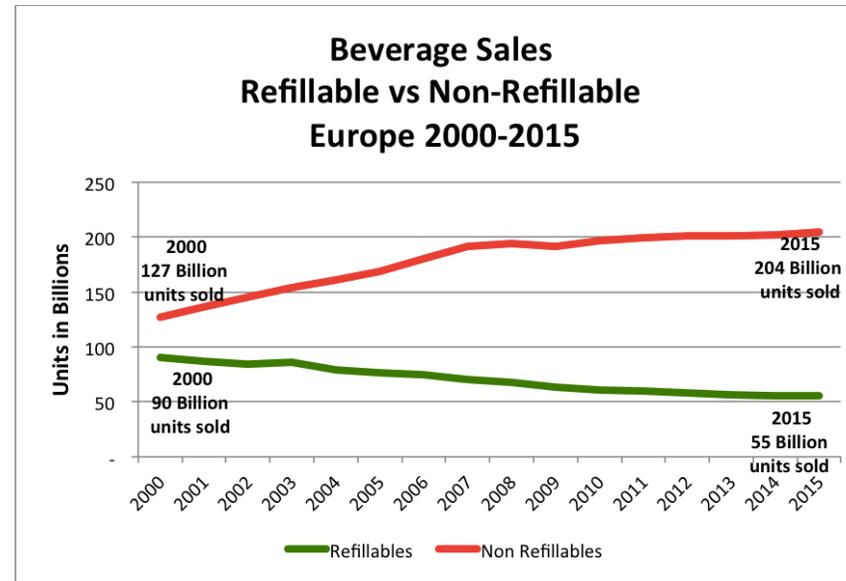
Reducing the plastic beverage container

- ✓ None at publicly-funded facilities or events
- ✓ Mandatory percentage of beverages sold in refillables



# Refillables- Going Old School is Cool

- Refillables were 86% of the beer bottle market in the U.S. in 1947
- They've disappeared in the U.S.
- In the EU, they are on the decline
- In Canada, they are 19% of total beverage sales
- Oregon is rolling out refillables with craft brewers- using the BottleDrop redemption centers



# THANK YOU

## Want to Learn More?

**Global Toolkit For Reducing Single Use Packaging And Plastic Pollution  
Through Source Reduction Action**

Location: Monte Carlo

This session looks at a global toolkit for plastic pollution source reduction actions for regulators and advocates in developing (LDCs and SIDs) and developed sub-nationals/countries.

TODAY at 4:30 PM - 5:15 PM

<https://www.facebook.com/UPSTREAMPolicy/>

@UpstreamPolicy

Miriam@upstreampolicy.org