



Summit for Recycling & Rocky Mountain Composting Symposium

We heart reuse.



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“We’re never going to be able to recycle or compost our way to a sustainable future. We have to work upstream to redesign the systems generating all the waste in the first place.”

- Upstream Founder, Bill Sheehan, Ph.D.



Upstream's Policy Work

- Thought leadership re: source reduction in policy and community organizing.
- Effective, doable **model reuse policies**
- “Seed and feed (support)” local **reuse coalitions** to get them enacted
- Grow, educate, and support the Reuse Movement through our **National Reuse Network** and **Government Reuse Forum**

The Key Issues - Climate & Plastics

Global carbon emissions up 90% since 1970¹

A planet of 7.8 billion embracing a throw-away economy = not sustainable

As of 2015, there was 150 million metric tons of plastic in our oceans²

The plastics industry is expanding, fueling a petrochemical infrastructure buildout

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We can't create a good quality of life for 7.8B people and growing on a "one-way throw-away" model.

The throw away economy

15% of wood

22% of aluminum

40% of plastic

50% of glass



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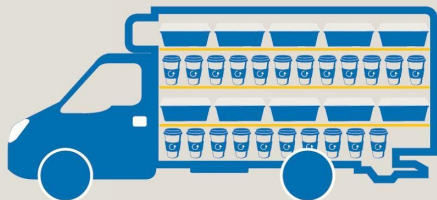


The new reuse economy

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How reuse services work

Refilling and/or restocking. The wash hub can ship containers that don't contain product (like to-go containers and cups) directly out for restocking. Packaging that needs to be refilled can either be refilled on-site or shipped out for refilling and restocking.



Washing and sanitizing. The wash hub receives reusable packaging from logistics or recycling providers to be cleaned, sanitized and dried.



Purchase and use. Customers purchase consumable products (food, beverages, personal care, cleaning products, etc.) in reusable packaging.



Collection & reverse logistics. Trucks pick up reusable packaging from bins or kiosks at home, at stores or on-the go. Curbside recycling or deposit-return materials recovery facilities (MRFs) can also be retooled to sort out reusable packaging.



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70%

of street litter bound for local and coastal waterways **is disposable food & beverage packaging**

75% of top 10 littered items in Coastal Cleanup Day are **food and beverage packaging**

2020 INTERNATIONAL COASTAL CLEANUP

By the Numbers

Top Ten Items Recorded

| | | |
|----|------------------------------------|---------|
| 1 | Cigarette Butts | 964,521 |
| 2 | Beverage Bottles (plastic) | 627,014 |
| 3 | Food Wrappers (candy, chips, etc.) | 573,534 |
| 4 | Other Trash* (Clean Swell) | 519,438 |
| 5 | Bottle Caps (plastic) | 409,855 |
| 6 | Grocery Bags (plastic) | 272,399 |
| 7 | Straws, Stirrers | 224,170 |
| 8 | Take Out/Away Containers (plastic) | 222,289 |
| 9 | Beverage Cans | 162,750 |
| 10 | Beverage Bottles (glass) | 146,255 |

221,589

People

5,229,065

Pounds

2,371,864

Kilograms

49,635

Miles

79,880

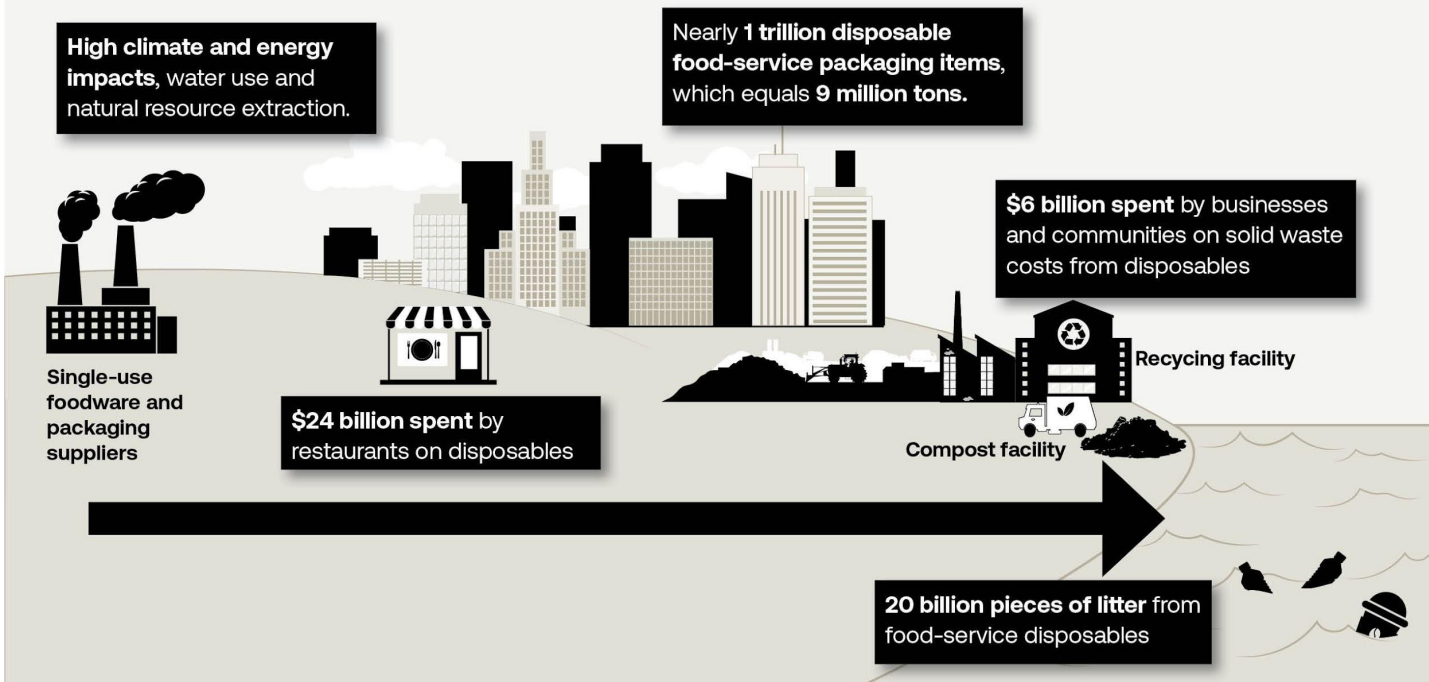
Kilometers

8,066,072

Total Items

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Today's "one-way throw-away" food service model



Waste Management Mythology

Recyclable: *myth*

- Only 5% of plastic waste gets recycled
- Mostly down-cycled (doesn't turn off the tap)
- Foodware too dirty to recycle
- Recyclable better for the environment only 56% of the time

Compostable: *myth*

- Packaging lowers compost quality and value
- Adds toxic chemicals to compost
- Often sent to landfill with 30X more GHG impact

Will banning plastic solve the problem?

Plastic pollution is growing

- 11 MMT/year of plastics enter oceans
- projected to triple by 2040
- by 2050, more plastic than fish (by weight)



The Problem isn't just plastic – it's single-use itself

Bio-based plastic

- *Contaminates* compost
- Fossil fuels used to grow and process
- Agriculture impacts (water pollution, dead zones)

Aluminum

- Average recycled content 73%
- Non-recycled = 5 x more carbon emissions
- Bauxite mining releases perfluorocarbons 9,200 times more harmful than CO₂

Paper

- **3 billion trees/year** for packaging (½ of trees logged)
- Greater GHG emissions compared to plastic
- Biodiversity loss, soil erosion and sedimentation, and eutrophication

Wood / Bamboo

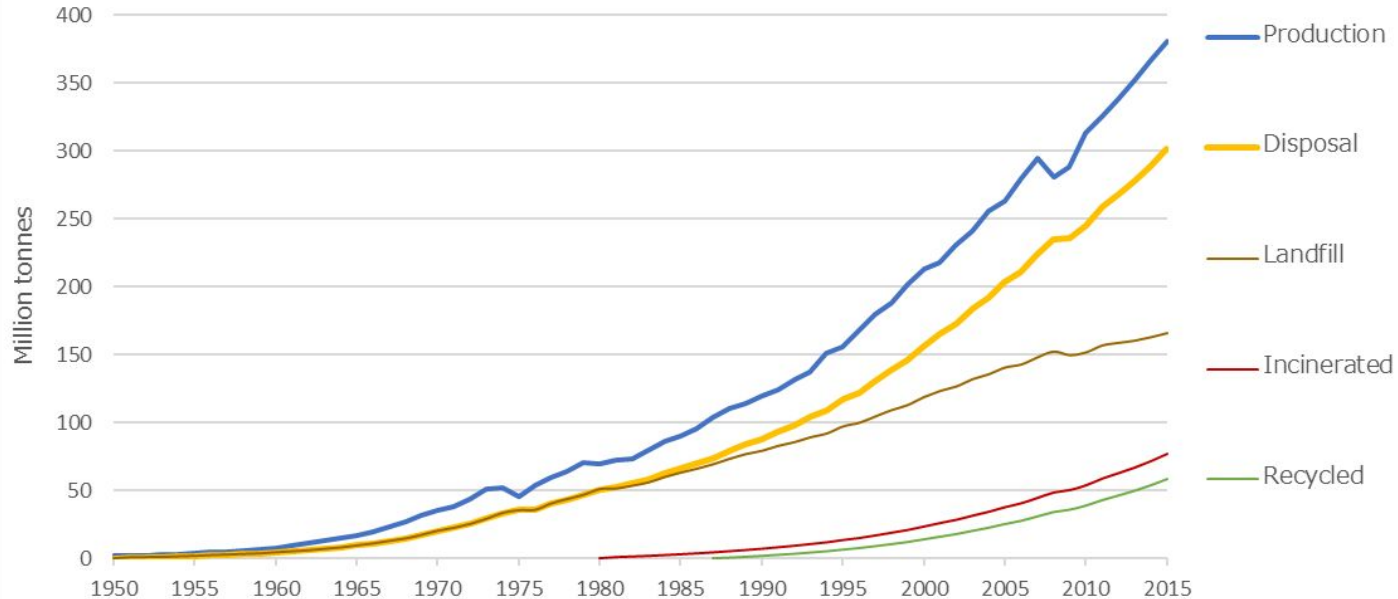
- Monoculture like agriculture (water pollution, dead zones)
- Biodiversity loss, soil erosion and sedimentation, and eutrophication

Waste generation versus recycling (plastic)

Global production and fate of plastic

Global quantities of plastic produced and disposed of annually, showing the estimated amounts disposed of via landfill, recycling and incineration.

(Based on data by Geyer *et al.* (2007) DOI: 10.1126/sciadv.1700782)



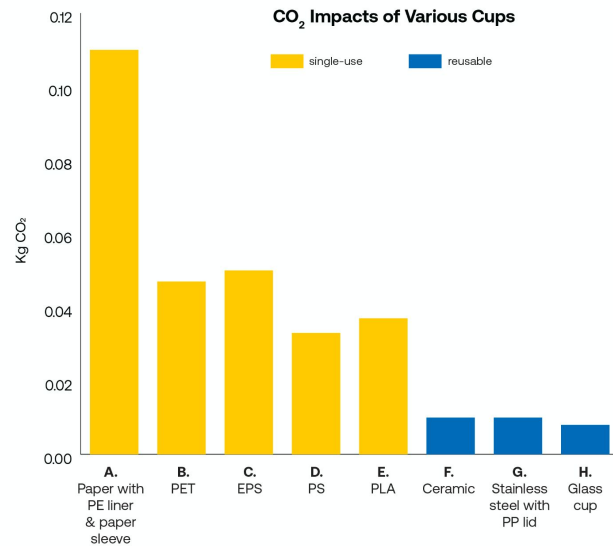
Reuse and the Story of Climate Data



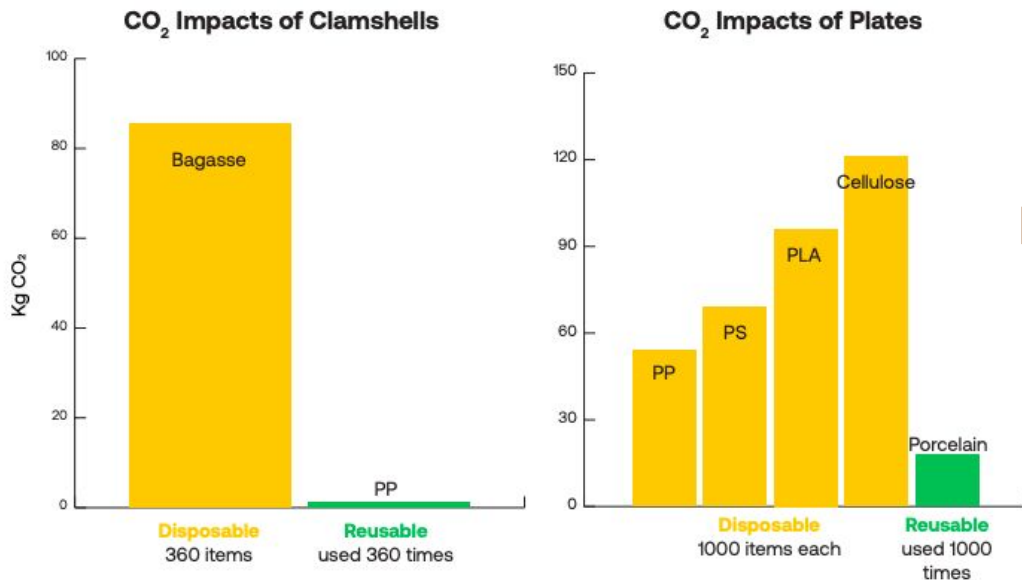
Better for Climate

Cups CO₂ Impacts

Disposable paper, plastic, and bioplastic
3-10 x higher than reusable ceramic,
stainless steel and glass



Carbon emissions of food service ware



Clamshells

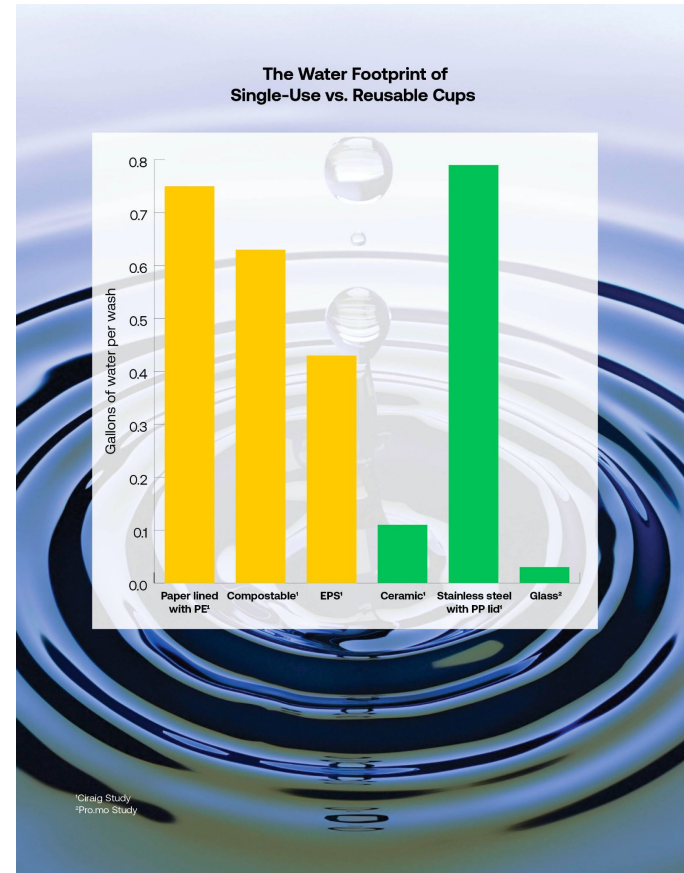
- Bagasse has 68x more carbon impact than reusable PP if used 350 times
- The PP clamshells lasted only 43 uses on average

Plates

- Reusable porcelain plates used 1,000 times have much lower impact than 1,000 PP, PS, PLA, and cellulose plates

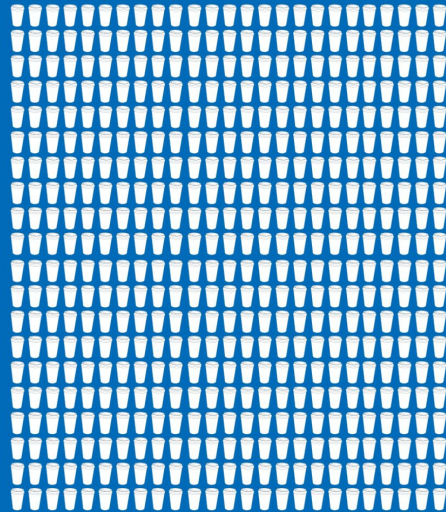
Less water consumed

- **Reusable cups save water**
 - most impact is in use phase
- **Disposable impacts in extraction and processing**

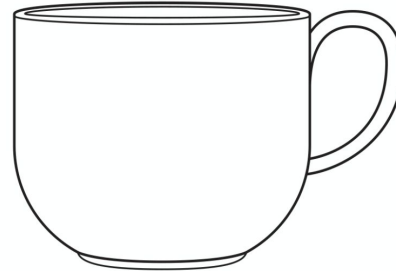


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Using 500 paper cups consumes nearly 370 gallons water



Using and washing one ceramic cup 500 times consumes only 53 gallons of water.

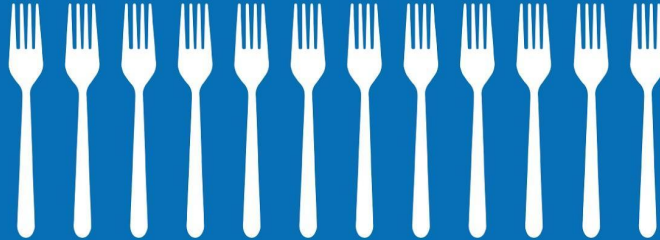


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After only two washes stainless steel cutlery breaks even with disposable cutlery for environmental impacts.



After that, every use increases the environmental benefits.



CO₂e Impacts Scenario

City Name: Howard City

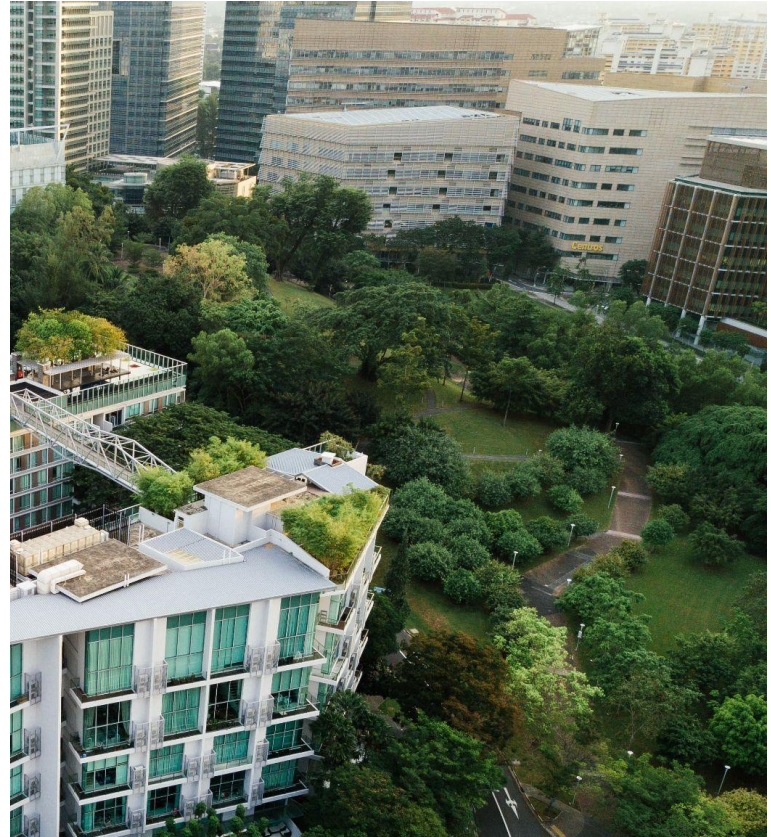
City Population: 800,000

Assumption: 3 items used per day, per person for one year (1 Plate, 1 Clamshell, 1 Cup)

Total Citywide CO₂e Emissions per year:

- **Disposables:** 131,400 metric tons
- **Reusables:** 9,928 metric tons

Savings of 121,472 metric tons CO₂e



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Protection from environmental & health hazards



Equal access to
decision-making process

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**Impacts to
Communities**

How Reuse is a mechanism for a 'Just Transition'

An economic and political power shift from an extractive economy to a regenerative economy ³⁰

- Non-toxic reusables reduce overall pollution, toxic chemical exposure, and litter
- Reuse services create good local jobs
- Reuse can help 'turn off the tap' for single-use plastics
- Reuse can be used as a climate mitigation strategy

Artwork: Ben Von Wong, Turn off the Tap



Policy Approaches



Two policy approaches

1. **Reduce:** eliminate the unnecessary stuff
1. **Reuse:** make reuse and refill the norm



Strategy #1: Reduce as Much as Possible

1. Ban single-use products

- Plastic bags → reusable bags
- Hotel toiletries in bulk dispensers
- Beverage bottles → refill stations



Strategy #2: Transition the Rest to Reusable/Refillable

- 1. Sector-wide targets for reusable packaging:** built into bottle bills & EPR
- 1. Only reusable foodware for on-site dining cities:** 12 U.S. Cities | **Countries:** Chile, France, Taiwan
- 1. Consumer charges for throw-away cups and containers:** 7 U.S. jurisdictions and Vancouver
- 1. Reuse at government events (San Francisco) and workplaces (Scotland) and in procurement**

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Strategy #3: Hold Producers Accountable – EPR for packaging

Strategy #4: Use a justice and equity lens

Strategy #5: Provide economic support and incentives for businesses

Strategy #6: Add precautions for disposables

6.1: Only recyclable or compostable that can be managed locally

6.2: Ban Priority Classes of Chemicals in Foodware and specific plastics

Strategy #7: Ensure reusables are non-toxic

**77 Reuse Laws covering
86,305,116 people**

Resources from Upstream

Reports

- The [Reuse Wins](#) report
- [Reuse Wins at Events](#)
- [Reuse Wins Fact Sheets](#)
- [The Reuse Policy Playbook](#)
- [The New Reuse Economy](#)

Training Presentations

- Envisioning Indisposable Communities
- Policies for Indisposable Communities
- The Connection Between Reuse & Climate
- Organizing for Reuse

Podcasts: Join us for the [Indisposable Podcast](#) which celebrates cutting edge solutions plastic pollution and reuse communities and features heroes of the reuse movement.

Blogs & Vlogs: At Upstream, we are passionate about sharing a variety of perspectives on reuse and in our [blog and vlog series](#), you can get the wrap on weighty topics in just a few minutes.

Indisposable Live™: Upstream's [Livestreams](#) provide a more interactive version of in-depth investigation into the reuse solutions to our plastic pollution and climate crisis. They feature experts and radical thinkers who are helping to build the new reuse economy.

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Ways to Get Involved

- ★ Start a Community Coalition
- ★ Join the National Reuse Network
- ★ Join the Government Reuse Forum
- ★ Sign up for our weekly email

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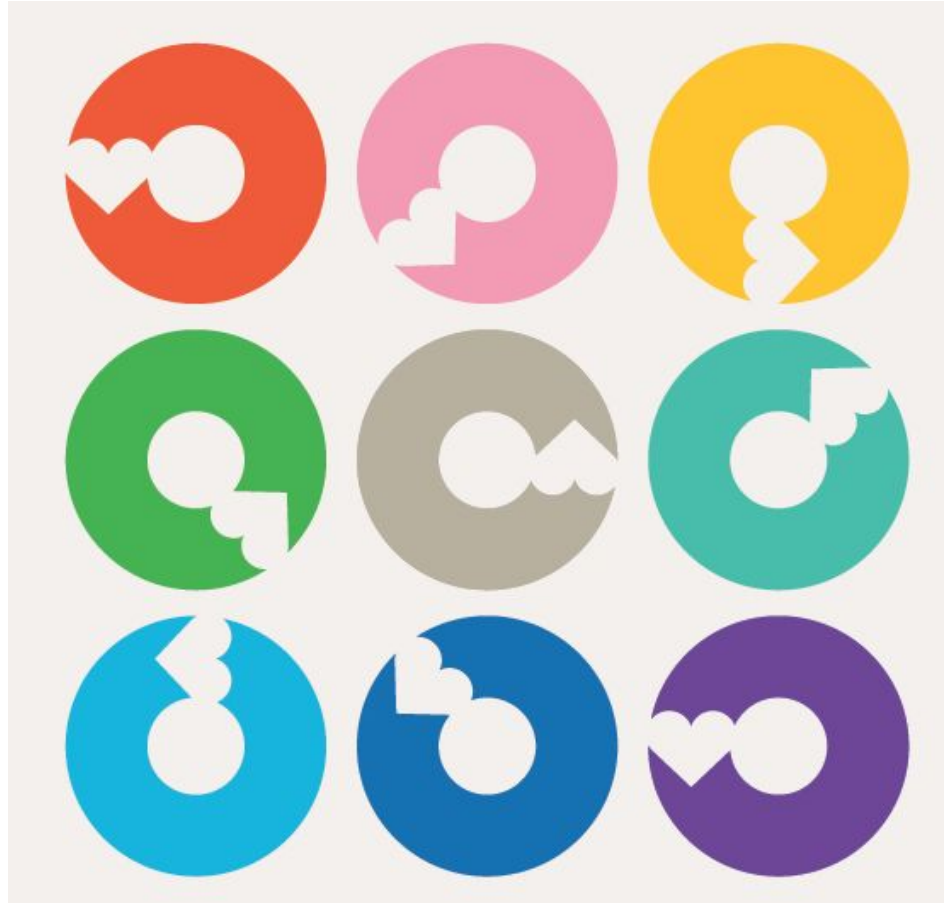


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Thank You!
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