

Introduction to Climate Training

The Connection Between Reuse & Climate



Climate Training

The Connection Between Reuse and Climate



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

We heart reuse

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

70%

of litter on streets and in waterways is disposable food & beverage packaging³



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

High climate and energy impacts, water use and natural resource extraction.



Single-use foodware and packaging suppliers

\$24 billion spent by restaurants on disposables



Nearly **1 trillion disposable food-service packaging items**, which equals **9 million tons**.



\$6 billion spent by businesses and communities on solid waste costs from disposables



Compost facility



Recycling facility

20 billion pieces of litter from food-service disposables



Waste Management Mythology

Recyclable: *myth*

- Only 5% of plastic waste has been 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 ⁶

Will Banning Plastic Solve the Problem?

150 MMT of plastic in our oceans as of 2015⁷

And the problem is growing...

Are single-use plastic bans the right solution?



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

Tomorrow's new reuse economy for food service

86% of disposables avoided

- reducing climate and energy impacts, water use and natural resource extraction.

193,000 jobs created

in new reuse economy. Jobs are created regionally in collection, washing, logistics, delivery, etc.

841 billion disposable food packaging items avoided and **7.5 million tons** of materials averted annually.

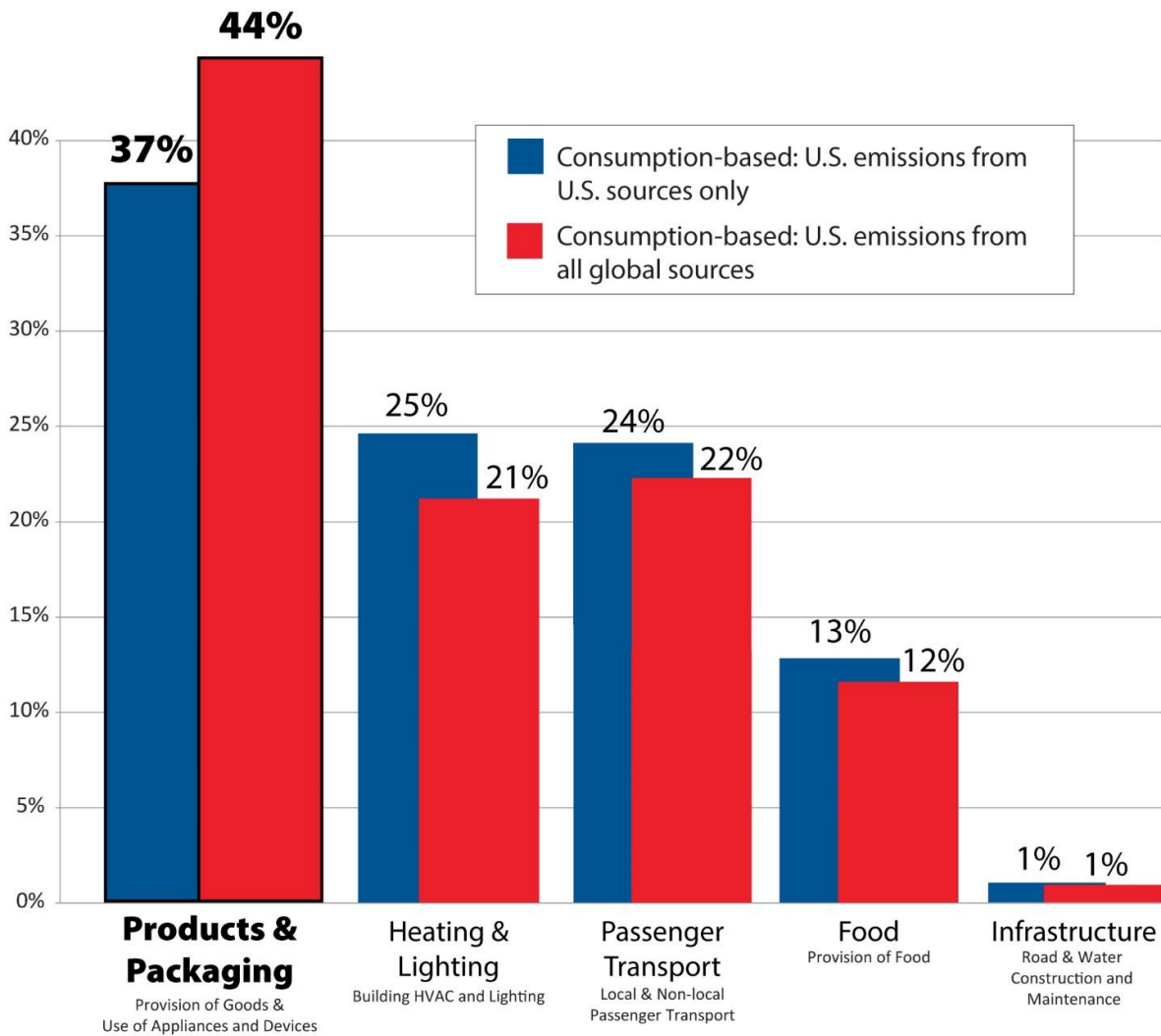
Reuse service providers

\$5 billion saved by food service businesses from no longer procuring disposables for on-site dining.

\$5.1 billion saved by businesses and communities from avoided solid waste costs from no longer using disposables

17 billion pieces of litter prevented through new reuse systems





Greenhouse gas emissions sources

Consumption-based Emissions Inventories (CBEIs)



Sector-based Vs. Consumption-based¹⁰

Sector-based Inventories: Current status quo

- GHG emissions from household use of fuel and electricity
- Consumption of goods and services produced in the city
- GHG emissions from **EXPORTED** goods and services

Consumption-based Inventories: The future

- GHG emissions from household use of fuel and electricity
- Consumption of goods and services produced in the city
- GHG emissions from **IMPORTED** goods and services



Consumption inventory

Global approach

Emissions anywhere in service of things consumed in Minnesota



In-boundary inventory

Snow globe approach

Emissions produced in Minnesota, regardless of where things are consumed



C40 CBEI Analysis¹³

- Analysis of 79 C40 cities
- GHG emissions are as much as 60% higher than currently estimated
- Two-thirds of these emissions are from imported goods and services
- CBEIS = 3X the size of their emissions for 15 cities

Limitations of CBEIs¹⁴

1. CBEIs lump consumption into categories

- Meat production has a larger emissions footprint than other types of food

2. Such categorization also treats all residents consumption as equal

- Consumption levels tend to vary widely within cities
- Research shows high-income households typically have a larger consumption footprint

3. Emissions can occur at different life-cycle phases

- For food, most emissions are associated with production
- For appliances, the majority of emissions result from use

Climate Action Plans (CAPs)



United States



Consumption Reduction & Reuse Language in CAPs

- Consumption Reduction Language (52 CAPs)
 - Nineteen **INCLUDE** specific language
 - Eleven **SOMEWHAT** include language
 - Seventeen **DON'T** include any language
- Reuse Language (52 CAPs)
 - Nineteen **INCLUDE** specific language
 - Twelve **SOMEWHAT** include language
 - Twenty-one **DON'T** include language

CAP Model Language

City & County of Los Angeles, CA

- Reuse targets: 25% by 2025; 50% by 2035
- Single-use plastics reduced 15% by 2030

Philadelphia, PA

- Reuse pilots and educational programs

San Francisco, CA

- Cut waste generation by 15% by 2030
- Policy to reduce and reuse in food service



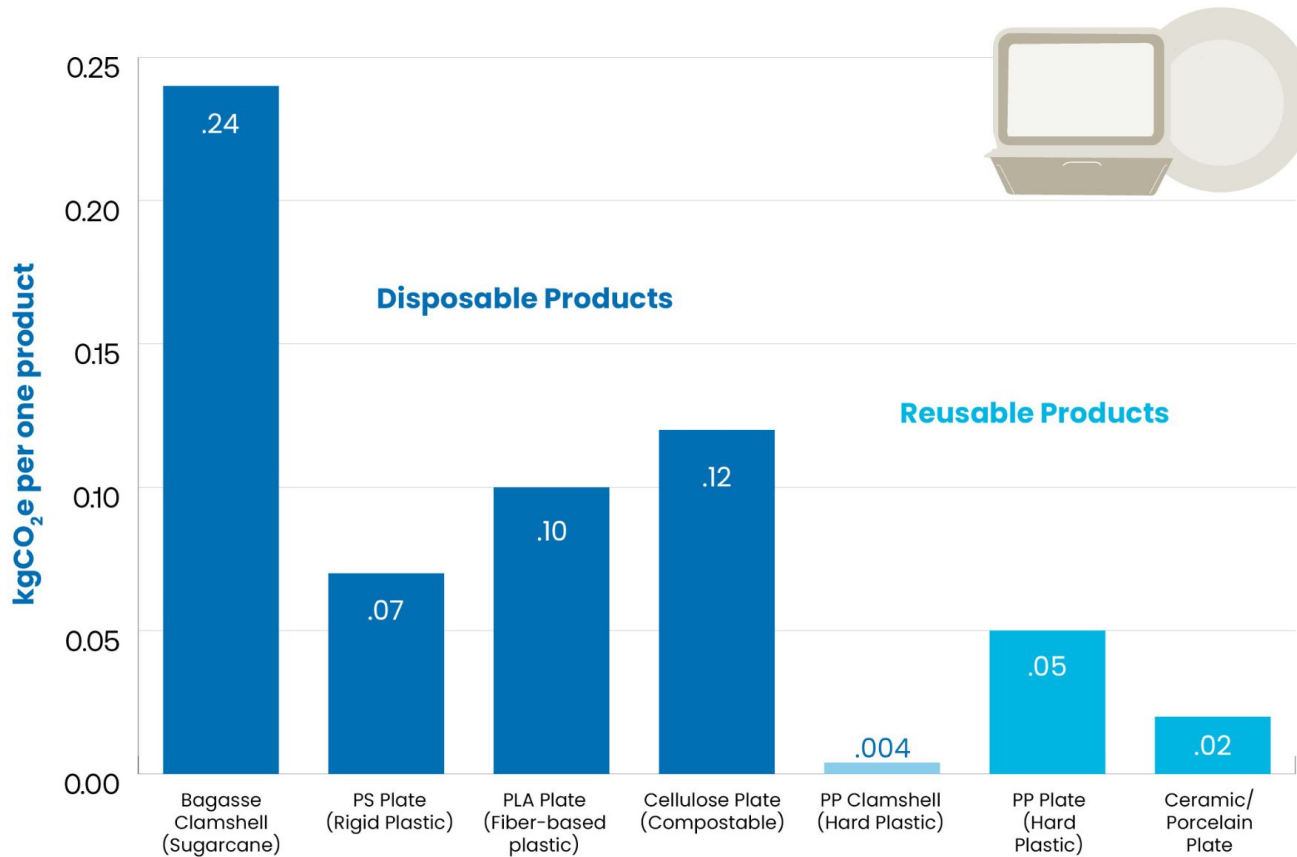
Reuse and the Story of Climate Data



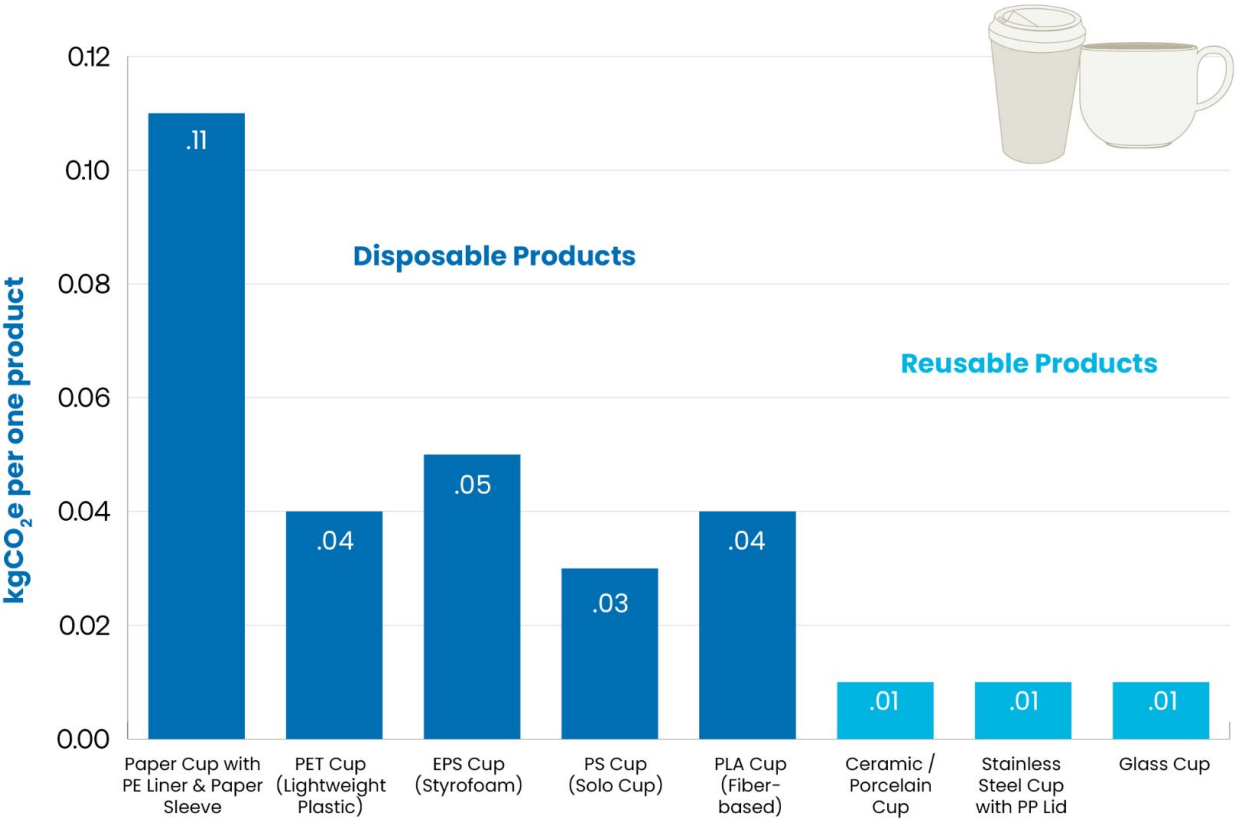
VESSEL
WORKS



CO₂e Impacts: Disposables Vs. Reusables



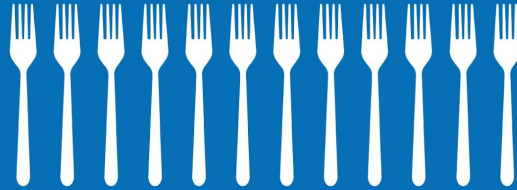
CO₂e Impacts: Disposables Vs. Reusables



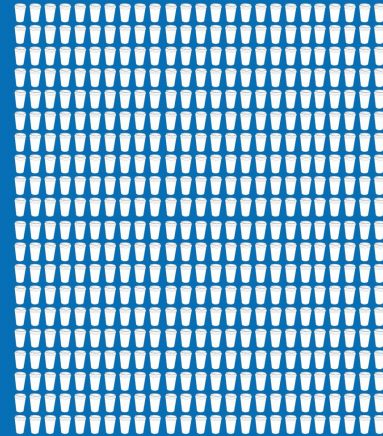
After only two washes stainless steel cutlery breaks even with disposable cutlery for environmental impacts.



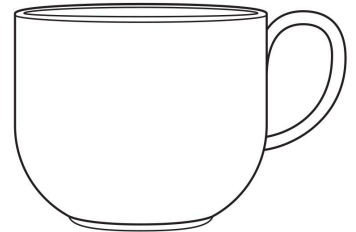
After that, every use increases the environmental benefits.



Using 500 paper cups consumes nearly 370 gallons water



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



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



Reuse and Environmental Justice



Protection from environmental & health hazards

Equal access to decision-making process





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



Call to Action:

Advocate for the following:

- The use of CBEIs for general accounting of GHG emissions
- Build source reduction and reuse concepts into existing CAPs
- Specific source reduction and reuse targets in CAPs
- Reuse as one pathway towards a 'just transition'

Engage directly with:

- Climate advocates, businesses & institutions, and environmental justice stakeholders to underscore the climate and community benefits of switching to reusables



Climate, Plastics & Reuse Toolkit

- Briefing Document
- Fact Sheets
- “Train-the-Trainer” Demo
- Sample Letter to Legislator

LINK

Resources for Building Reuse Communities

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 heros 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.