

Greening Williamstown



Banning single-use plastic bags
and polystyrene products

Some Quick Definitions

- **Styrene** = An organic compound derived from benzene. It is associated with a number of health risks, including cancer.
- **Polystyrene** = Plastic made of styrene. This can take many forms, from coffee lids and sushi boxes to EPS cups.
- **EPS** = Expanded Polystyrene, a bulky, lightweight plastic in the form of a smooth, rigid foam. Widely used for everything from coffee cups to insulation.
- **XPS** = Extruded Polystyrene is the bumpier rougher form of EPS, the kind that breaks off in chunks. Packing materials, e.g.
- **Styrofoam** = a brand name for the XPS manufactured by Dow Chemicals. Although it is a trademarked product, “Styrofoam” is widely used for all EPS and XPS.

Some Common Polystyrene Products



The Case Against Polystyrene

Health Effects:

- Polystyrene is based on styrene, a neurotoxin and probable carcinogen. Polystyrene is the only plastic used in food packaging that is based on a carcinogen
- Polystyrene products may leach styrene when exposed to hot or greasy foods
- Styrene residues are found in 100% of human fat tissue samples
- Manufacturing polystyrene is highly hazardous for factory workers

Environmental Effects:

- Polystyrene does not biodegrade. It is very bulky, so it takes up a lot of room in landfills.
- Estimates of longevity range from hundreds to thousands of years.
- Even when properly disposed, polystyrene often ends up as litter due to its light weight.
- Production produces a large amount of hazardous waste and air pollution
- Polystyrene items harm wildlife. At least 267 marine species worldwide have
- been reported to have been affected by polystyrene litter
- Polystyrene is made from non-renewable fossil fuels (oil and natural gas).

The Case Against Plastic Bags

Economic Effects

- Every year, Americans discard 100 billion single-use plastic bags.
- The average family accumulates 60 plastic bags in only four trips to the grocery store.
- The plastic bag industry collects \$4 billion per year in profits from U.S. retailers, who pass the costs on to consumers.
- The average use time of a plastic bag is only 12 minutes.
- Less than one percent of plastic carry-out bags are recycled each year. Recycling one ton of plastic bags costs \$4,000. The recycled product can be sold for \$32

Environmental Effects

- Plastic bags are a major litter problem, thanks especially to their aerodynamic qualities.
- Plastic bags are often mistaken as food by both domesticated and wild animals. Birds, turtles, whales, sea lions, seals, and fish are among the species at particular risk.
- Ten percent of the plastic produced every year worldwide winds up in the ocean, 70% of which finds its way to the ocean floor, where it will likely never degrade.
- Every square mile of ocean has about 46,000 pieces of plastic floating in it.

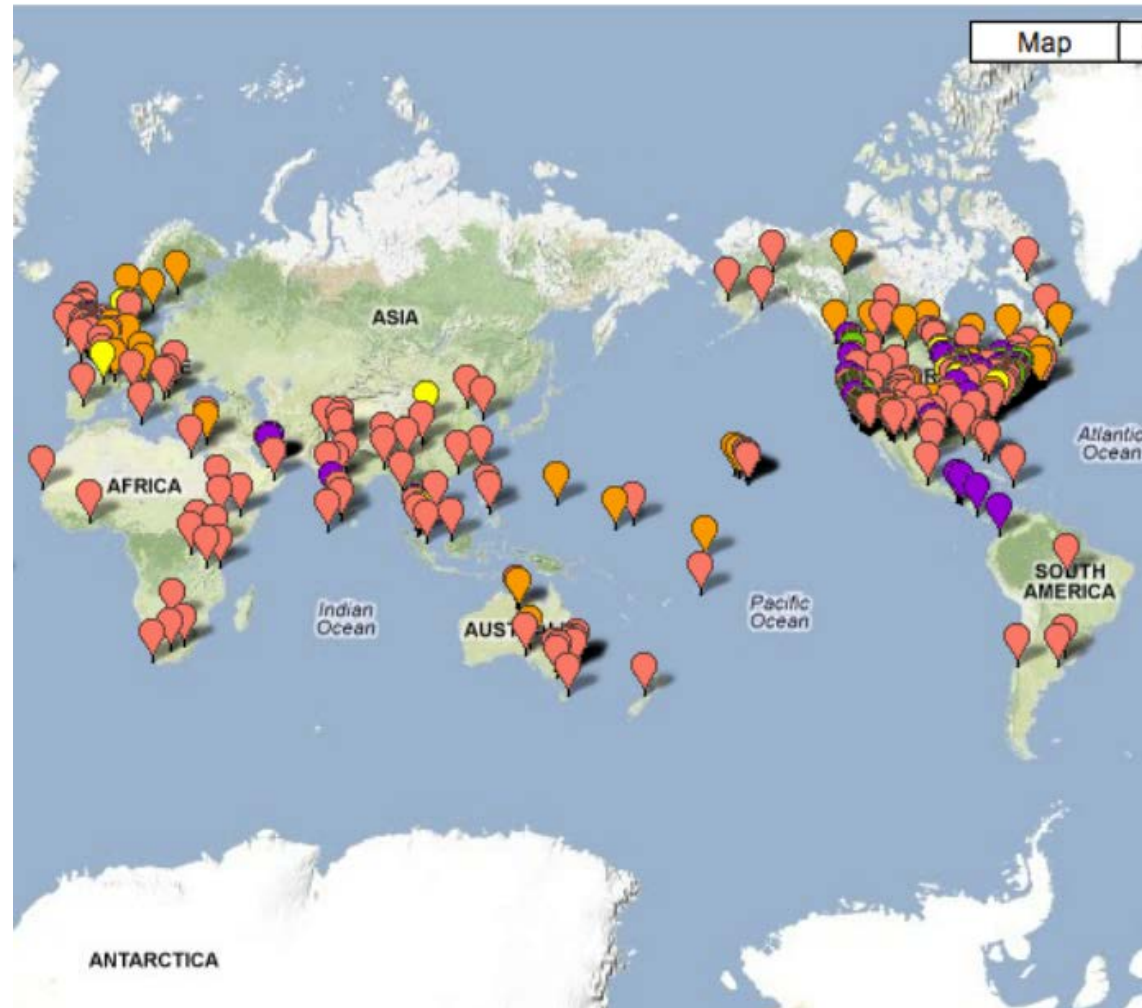
The Problem of Microplastics

- Rather than eventually breaking down into benign substances, polystyrene and plastic bags fracture into small plastic particles (microplastics), which persist in the environment.
- These tiny particles, 5 mm or smaller, present the greatest long-term danger, as these particles displace food supplies in the world's oceans.
- Animals from shellfish to whales can ingest them. This can displace space in an animal's stomach or block their digestive tracks, and then cause animals to die from starvation.
- Once microplastics enter our oceans, they will stay there virtually forever, because they persist and their removal is not possible.



**WHAT GOES
IN THE OCEAN
GOES IN YOU.**

Plastic and/or Polystyrene are banned in over 100 cities all over the world



📌 = Bag Ban 📌 = Bottle Bill 📌 = BPA Bill 📌 = Polystyrene Foam Bill 📌 = Plastic Free Campus

A Number of Municipalities in Massachusetts Have Passed or Are Currently Considering Bans

Passed

Town	Polystyrene	Plastic Bags
Amherst	X	
Brookline	X	X
Falmouth		X
Great Barrington	X	X
Manchester		X
Marblehead		X
Newburyport		X
Newton		X
Provincetown		X
Somerville	X	
South Hadley	X	

Proposed

Town	Polystyrene	Plastic Bags
Brewster		X
Cambridge	X	X
Hamilton		X
Hingham		X
Natick		X
Pittsfield	X	X
Northampton		X
Watertown		X

There Are Many Available Alternatives

Plastic Bags

- Paper bags
- Reusable tote bags
- String bags
- BagShare Project

Polystyrene

- Recycled Paper Products
- Conventional/Virgin Paper Products
- Bagasse (made from sugar cane byproduct)
- Recycled Plastic Products
- Conventional Plastic Products
- Bioplastics (generally from corn)
- Biodegradable Products



There Are Many Vendors of Alternative Products

Selected vendors include:

- US Eco Products.....978-457-9229
- Eco-Products.....1-866-402-1831
- Tri Mark United East.....800-556-7338
- Dart.....800-248-5960
- Vegware.....845-643-0406
- Biomasspackaging.....800-317-2737
- Minipak Torre.....1-714-283-4200
- Pactiv.....847-482-2000
- Hubert.....1-866-482-4357
- Be Green Packaging.....805-456-6088
- MyTakeOutBags.....888-321-2248
- Amazon.com
- ... and many more. ...

Aren't Alternatives Much More Expensive?

No:

Polystyrene Foam Take-Out Packaging and Price Comparable Alternatives

Product	Polystyrene Product	Unit Cost	Non-Foam Product	Unit Cost	Cost Difference
10 oz Cold Cup 10 oz Hot Cup	Foam - Dart Container 1000 ct	\$20.20	Plastic - Dart Container 2500 ct	\$60.96	\$0.00
	Foam - Dart Container 1000 ct	\$20.20	Paper - Choice 1000 ct	\$36.53	\$0.02
12 oz Cold Cup 12 oz Hot Cup	Foam - Dart Container 1000 ct	\$22.09	Plastic - Dart Container 1000 ct	\$24.90	\$0.00
	Foam - Dart Container 1000 ct	\$22.09	Paper - Choice 1000 ct	\$40.39	\$0.02
16 oz Cold Cup 16 oz Hot Cup	Foam - Dart Container 1000 ct	\$31.91	Plastic - Dart Container 1000 ct	\$35.37	\$0.00
	Foam - Dart Container 1000 ct	\$31.91	Paper - Choice 1000 ct	\$44.03	\$0.01
12 oz Bowl	Foam - Dart Container 500 ct	\$17.63	Plastic - Genpak 1000ct	\$48.99	\$0.02
16 oz Bowl	Foam - Dart Container 500 ct	\$19.65	Plastic - Genpak 1000ct	\$63.99	\$0.02
6" Plate	Foam - Dart Container 1000 ct	\$13.08	Paper - AJM Packaging 1000 ct	\$7.53	\$0.00
9" Plate	Foam - Dart Container 500 ct	\$19.37	Paper - AJM Packaging 1000 ct	\$11.49	(\$0.03)
6" Hinge Container	Foam - Dart Container 500 ct	\$17.13	Plastic - Dart 500ct	\$28.18	\$0.03
9" Hinge Container	Foam - Dart Container 200 ct	\$12.64	Plastic - Duralock 250ct	\$25.94	\$0.04
Average Cost Difference					\$0.01

All prices from The WEBstaurant Store, July 2012.
Lower prices (up to 25 % less) may be obtainable through cooperative purchasing.

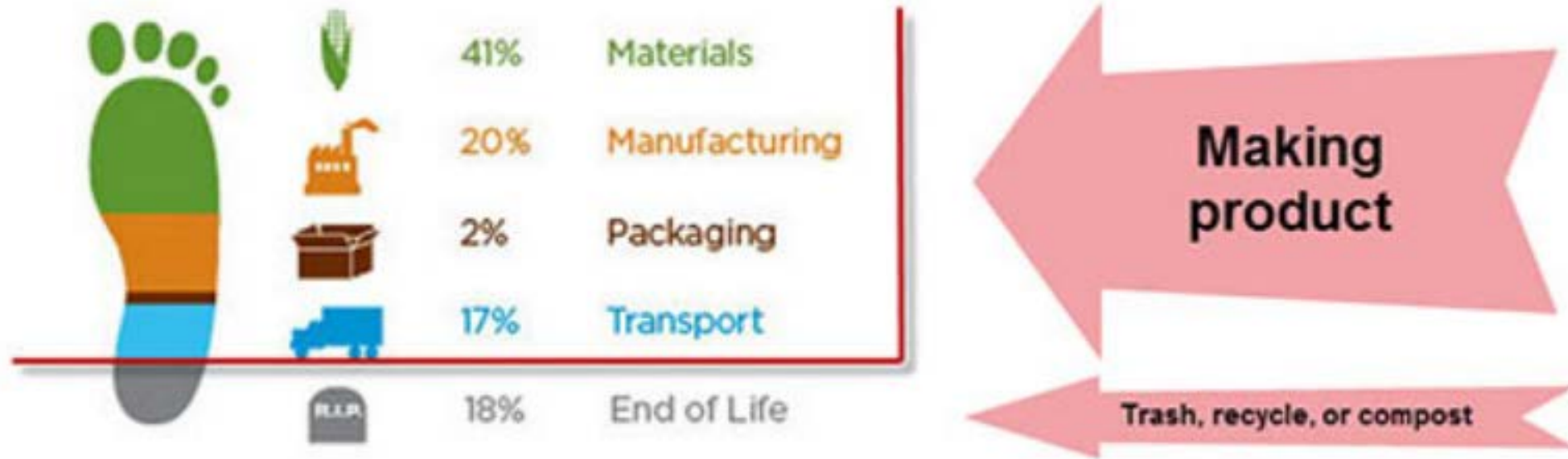
Aren't Paper and Corn Products Just as Environmentally Harmful as Polystyrene?

No:

1. Styrene is toxic, paper is not.
2. Unlike paper, polystyrene never decomposes into soil. Rather, it just breaks down into smaller and smaller bits.
3. The source of the claim that paper might actually have a greater carbon impact than polystyrene is a 2011 study sponsored by the Plastic Foodservice Packaging Group (<http://plasticfoodservicefacts.com/Life-Cycle-Inventory-Foodservice-Products>). Merchants of doubt.

But on the other hand...

Disposable Packaging Does Have a Significant Carbon Footprint



Different disposable food service materials have different impacts

The Bottom Line

- ❖ Recyclable/Compostable products are better than polystyrene.
- ❖ Reusable is better than disposable, no matter how recyclable or compostable

	Virgin Paper	Recycled Paper	Petroleum Plastics	Bioplastics (PLA & PHA)	Bagasse
Production					
Energy Use	Usually High	Usually Low	High	Medium	Usually Low
Carbon Emissions	High	Usually Low	High	Usually Low	Usually High
Renewable resource?	Yes	Yes	No	All or part	Yes
Fertilizers and Pesticides	No	No	No	Yes	Yes
Impacts food supply?	No	No	No	Yes	No
Health risk from production?	Yes*	Sometimes*	Yes	Sometimes**	Sometimes
Consumption					
Health risk from consumption?	No	No	Yes	Usually No	Usually No
Disposal					
Recyclable in Portland's home & business collection program?	No	No	Only tubs, bottles and jugs	No	No
Compostable in Portland's home & business collection program?	No	No	No	No	No
Release methane in landfill?	Yes	Yes	Usually No	Yes	Yes

Political Notes

- Bylaws passed in Town Meeting need to be approved by Massachusetts Attorney General.
 - There is a certain advantage to using language already approved elsewhere.
- There are several legislators on Beacon Hill who are working on state bag bans.
 - There is a certain advantage to using unique language. A confusing local regulatory landscape will eventually have major retailers begging for statewide standards.
- The future is in eliminating all disposal food service waste, not just switching to recyclables & compostables
 - Portland, OR, has recently passed an ordinance refusing to accept disposable ware – even if it is supposedly compostable – in the city-wide commercial and residential compost program.
 - Clean Water Action, a national lobby, is at the forefront of helping businesses and communities operate more sustainably, with their ReThinking Disposables campaign.

Banning plastic bags: Some Key Decision Points

- What thickness?
 - Over 1.5 mil: Provincetown
 - 2.25 mil: Brookline
 - Over 3.0 mil: Marblehead, Newburyport, Newton
- What business impacted?
 - Any establishment: Marblehead, Newburyport, Provincetown
 - Medium size stores (2500+ sq ft): Brookline
 - Larger stores (3500+ sq ft): Newton
- Specified guidelines for paper bags?
 - Yes: Brookline, Marblehead, Newton
 - No: Newburyport, Provincetown
- Ban or mandatory levy?
 - Ban: Massachusetts municipalities
 - 5 cents: DC, etc.
 - 10 cents: California cities, etc.
- Penalties: range from \$50 to \$200

Banning Polystyrene: Some Key Decision Points

- Ban all polystyrene food service products or just foam (EPS)?
 - All polystyrene: Great Barrington, Brookline
 - Just EPS: Amherst, South Hadley
- Ban just food packaging or other products, such as packing peanuts?
 - Is it possible to ban the sale of Styrofoam cups at grocery and convenience stores?
- Allow grace period before ban goes into effect? How long?
- Allow for hardship cases for businesses that need more time to adapt?
- What penalties shall be imposed for non-compliance?
- Enforcement issues: Health Department Inspectors

Deadlines

March 30: Due date to insert articles into warrant for Town Meeting.

- By this date, the texts of our bylaws must be drafted in final form.
- 10 signatures required for each article.

May 19: Town Meeting.

Some Tasks Ahead

Legal

- Draft bylaw for polystyrene
- Draft bylaw for plastic bags

Outreach

- Town Manager & Board of Selectmen
 - Select Board meets 7:00 p.m. on the second and fourth Monday of each month.
 - Bylaws will impose burden of enforcement on town's Board of Health.
- Business Community
 - Very important that they are informed and buy in. (Somerville vs. Brookline)
 - Chamber of Commerce -- special meeting
 - Businesses not in Chamber of Commerce: Chopsticks, Asian Market, Aubuchon, & chains (Dunkin Donuts, etc.)
- Institutions
 - May need special help to transition
 - Schools: MGRHS, WES
 - Sweetwood, Sweetbrook
 - Hotels
- Community Outreach
 - Spreading the word within Williamstown
 - Arrange for public screening of *Bag It!* in Williamstown and North Adams
 - Perhaps in partnership with Zilkha Center?

Expanding our efforts

Greening the Berkshires

- Reach out to activists in other towns and cities in the Berkshires
- Get our legislators on board: Sen. Dowling, Rep. Pignatelli.
 - Rep Cariddi is already with us!

Be Part of the Solution

- Help identify best practices
- Help local businesses & institutions identify sources of alternative products.
- Ensure local vendors (Greenberg's, Sysco, etc.) stock alternative products at comparable prices.
- Encourage local vendors to accept trade-ins of polystyrene products, so businesses and institutions are not left with unusable supplies. (South Hadley did this.)

Improve information flows so other towns do not have to start from scratch

- GreenMass.Org