

Seattle's Proposed Green Fee on Disposable Shopping Bags & Ban on the Use of Expanded Polystyrene (EPS) Food Containers



Disclaimer

- EPS ban has been approved and is scheduled to come into effect on 1/1/09
- Disposable bag green fee was passed by City Council, however it is likely to be subject to a referendum
- Nothing in this presentation is intended as an attempt to affect any future Seattle vote on bag Green Fee

Goals

To reduce environmental and greenhouse gas impacts by:

- Reduce use of disposable shopping bags
- Encouraging switch to reusable bags.
- Eventually eliminating the use of one-time disposable plastic and plastic-coated paper food service products
- Promote compostable and truly recyclable alternatives.

Environmental Concerns

(Disposable Shopping Bags)

- Litter and marine ecosystem impacts
- Energy use
- Global warming and resource consumption
 - 8,500 tons of greenhouse gases.
 - Almost 240 million end up in the garbage — despite Seattle's strong recycling ethic.
 - Paper bags have a greater total impact — bag for bag four times that of plastic — from logging, paper making, trucking and disposal.

Environmental Concerns

(Disposable Food Service Items)

- Litter and marine ecosystem impacts
- Global warming and resource consumption
- Energy Use
- Lost opportunity: food waste diversion

Life Cycle Assessment Major findings for disposable shopping bags

- Reusable provides the greatest environmental benefits
- “Biodegradable” and paper would benefit litter persistence impacts
- “Biodegradable” and disposable plastic offer resource and energy use benefits over paper though litter persistence is a major drawback.
- Not clear if “biodegradable” is environmentally better than disposable plastic bags.
- “Biodegradable” = practical problems for Seattle recycling and food waste composting

Life Cycle Assessment

Major findings for disposable food service

- A shift from disposable food service items to “biodegradable” food service items would benefit litter impacts on marine ecosystems.
- “Biodegradable” plastics or uncoated paper performed as well or better than disposable plastic food service items in some environmental categories.

Strategies Used Elsewhere

- Bags (e.g., California and Europe)
 - Education and labeling
 - Voluntary measures
 - Mandatory advanced recovery fees
 - Curbside and in-store recycling
 - EPR mechanisms
 - Product bans
 - Product restrictions
 - Credits and deposits
- Foam (e.g., California, Portland)
 - Bans nearly universal
 - Some of above

Policy Options

(Disposable Shopping Bags)

- Strategies for analysis
 - Enhanced education only
 - Ban on disposable plastic shopping bags
 - Mandatory Green Fee on disposable plastic shopping bags only
 - Mandatory Green Fee on disposable plastic and paper shopping bags

Overall Findings

Shopping Bags

As a percentage of the status quo

| | Units | Status Quo | Education | Ban plastic | Green Fee on plastic | Green Fee on both paper and plastic |
|------------------------------|-----------------|------------|-----------|-------------|----------------------|-------------------------------------|
| Non-Renewable Energy | Megajoules (MJ) | 100% | 96% | 73% | 67% | 42% |
| GHG Emissions | kg CO2 eq. | 100% | 96% | 82% | 73% | 43% |
| Resource Depletion (Abiotic) | kg Sb eq. | 100% | 96% | 69% | 65% | 42% |
| Eutrophication | kg PO4 eq. | 100% | 96% | 101% | 83% | 41% |
| Litter Marine Diversity | kg | 100% | 96% | 33% | 45% | 45% |
| Litter Aesthetics | Square meters | 100% | 96% | 34% | 46% | 44% |
| Shopping Bag Waste Generated | Tons | 100% | 96% | 89% | 76% | 41% |
| NPV | \$ | 100% | 97% | 75% | 73% | 53% |

Units produced in each environmental category are summed over a 30-year time frame.
 NPV equals net present value of sum of discounted future cash flows.

Policy Options

(Disposable Food Service Items)

- Strategies for analysis
 - Enhanced education only
 - Ban on expanded polystyrene (EPS) products plus a future deadline for conversion of all disposable plastic food service to compostable or recyclable substitutes
 - Green Fee on expanded polystyrene (EPS) products
 - Green Fee on all non-compostable and non-recyclable food service items

EPS Study Findings

- EPS “clamshells” compared
 - Serious impact as litter and marine litter
 - Mixed results in various environmental impact categories compared to other materials
 - All disposable plastics are an impediment to food waste composting
- Compostable alternatives
 - Enhance food waste programs

Alternative Products

Food Service Items

| Material | Food Service Product Type | | | | | | | | | | |
|--|---------------------------|-----------------|---------|--------------------|-------------------|-------------------|-------------------|-------------------|------------------|----------|-------|
| | Bowls | Plates or trays | Cutlery | Cold cups and lids | Hot cups and lids | Folded containers | Hinged containers | Lidded containers | Straws, Stirrers | Aluminum | Wraps |
| bagasse | X | X | X | X | | | X | | X | | |
| bagasse and other fibers | X | X | | | | | X | | | | |
| bagasse, bamboo, starch | | X | | | | | | X | | | |
| bagasse, corn and potato starch | X | X | X | X | | | | | X | | |
| bagasse, corn or potato starch with soy oil | X | X | X | | | | X | X | | | |
| bagasse, corn starch, wood, Natureflex, PLA, Eco film, Eco works | X | X | X | X | | | | | | | |
| bagasse, rice, or bamboo | X | X | X | X | X | | X | X | X | | |
| cellulose fiber/limestone | X | X | X | X | X | | X | X | X | | |
| starch/protein/cellulose | X | X | X | X | X | | X | X | X | | |
| corn starch based PLA | X | X | X | X | X | | X | X | X | | |
| corn, soy, wheat, potato based | X | X | X | X | X | | X | | X | | X |
| palm fiber, Natureflex film | | X | | | | | | X | | | X |
| paper | X | X | | X | X | | X | | | | |
| paper lined with PLA | X | X | | | X | X | | | | | |
| recyclable clear HDPE, LDPE, PP resin plastic | | | | | | | | X | | | |
| recycled paper molded fiber | X | X | | | | | X | X | | | |
| recycled paperboard | | | | | | X | | | | | |
| 100% recycled paper | X | X | | | | | | | | | |
| aluminum foil | | | | | | | | | | X | |

Solutions that were proposed

1. Seattle Green Fee
2. Ban on expanded polystyrene food containers
3. Required switch to compostable and recyclable alternatives to disposable plastic



The Green Fee Proposal

- Would apply at grocery, drug and convenience stores — the source of almost three fourths of all bags.
- Would require a 20 cent per bag fee on all disposable bags, paper *and* plastic.
- Projected to cut disposable bag use at those stores by 70 percent, overall by more than 50 percent.
- Projected to cut greenhouse gas generation by more than 40 percent — 4,000 tons per year, equivalent to getting 665 cars off the road.

The Green Fee Proposal

- Merchants would keep 5 cents per bag to cover administrative costs.
- 15 cents per bag — would be used for waste prevention, recycling, city cleanup and environmental education programs.
- Businesses under \$1 million-a-year revenue would keep full 20 cents per bag to cover administrative costs.
- Would exempt bags used inside stores to contain bulk items, or prepared food such as deli or bakery goods; newspaper, door-hanger and dry-cleaner bags.

The Green Fee Proposal

- Proposed to earmark funds to support distribution of free or reusable bags: @ least 1 /household, more for low-income.

The Green Fee Proposal

- Some grocery firms preferred a flat fee to a per bag fee
- Other grocers prefer an enhanced promotion for voluntary use of reusable bags and/or recycling
- Bag manufacturers opposed proposal

Ban on expanded polystyrene
(EPS) containers and cups in
food service

Switch to compostable and truly
recyclable alternatives to
disposable plastic and plastic-
coated paper

The EPS ban

- Begins Jan. 1, 2009
- Applies to all food service businesses and includes some of the EPS packaging used in grocery stores such as meat and vegetable display trays.
- Encourages food service businesses to switch now to compostable and recyclable alternatives.

The EPS ban

- Takes advantage of new compostable food service products already available from local distributors.
- Requires all food service businesses to switch from one-time-use, disposable plastic and plastic-coated paper food and beverage containers and utensils to fully compostable or recyclable substitutes by July 1, 2010.

Transition Year Plans

During the first year of these programs, the City will:

- Set up business advisory committees representing retail and restaurant sectors.
- Help food service businesses work together for lower prices on new compostable products.

Transition Year Plans

- Make significant investments in public education, to promote reusable bag use and tell customers about composting programs at home and at restaurants.
- Set aside funding for joint promotions with stores and restaurants.
- Provide complete program information on the Web.
- Reach shoppers and diners regularly using direct mail.

Seattle's Proposed Green Fee on Disposable Shopping Bags

&

**Ban on the Use of Expanded
Polystyrene (EPS) Food
Containers**

