

City of Cambridge
Climate Protection Action Committee

Recommendation
on
Proposed Plastic Bag Ban Ordinance

February 14, 2013

An ordinance to ban the use of single use plastic checkout bags is under consideration by the City Council. The motivation for considering the proposed ordinance is based primarily on reasons involving the desire to reduce impacts to the marine environment and inland waterways and waterbodies.

The Climate Protection Action Committee (CPAC) is an advisory body to the City Manager on matters involving climate change mitigation and preparedness. CPAC does not have a position on the merits of the ordinance in terms of achieving the goals described in the proposal. There are some issues that have implications for greenhouse gas emissions, which we would like to bring to the attention of the City. We hope these comments and recommendations will be conveyed to the City Council.

As we understand the proposed ordinance, it would ban retail establishments including supermarkets, pharmacies, and other retail stores above a certain size from providing plastic carryout bags less than 2.25 mils in thickness that are not intended to be reusable.

CPAC is concerned that if an ordinance is enacted that simply bans single use carryout plastic bags, that retail establishments and their customers may shift to the use of paper bags. If this were to occur, we believe that the result may add to Cambridge's contribution to climate change by unintentionally increasing the emission of greenhouse gases.

Both plastic bags and paper bags involve greenhouse gas emissions in their production, distribution, and disposal. While CPAC has not conducted original, in-depth research on the comparative GHG impact of each type of bag, we have looked to the work of Green Cities California (GCC), which is a coalition of 12 of California's largest and most environmentally progressive local governments including San Francisco, Berkeley, and Santa Monica. In 2010, GCC commissioned a master environmental assessment of single use, disposal grocery checkout bags (see <http://greencitiescalifornia.org/pages/single-use-bag-reduction.html>) to serve as "a one-stop reference about the impacts of restricting the use of single-use grocery bags, or of imposing a fee or other restriction on single-use disposable grocery bags." The assessment was largely funded by municipalities and environmental organizations, and was prepared by ICF International.

The key findings of the report were:

- **Single-Use Plastic Bags:** Nearly 20 billion single-use high density polyethylene

(HDPE) plastic grocery bags are used annually in California, and most end up in landfills or as litter. In fact, of the four types of bags considered, plastic bags had the greatest impact on litter.

- **Single-Use Paper Bags:** Kraft paper bags are recycled at a significantly higher rate than single-use plastic bags. Still, over its lifetime, a single-use paper bag has significantly larger greenhouse gas (GHG) emissions and results in greater atmospheric acidification, water consumption, and ozone production than plastic bags.
- **Single-Use Biodegradable Bags:** Although biodegradable bags are thought to be an eco-friendly alternative to HDPE plastic bags, they have greater environmental impacts at manufacture, resulting in more GHG emissions and water consumption than conventional plastic bags. In addition, biodegradable bags may degrade only under composting conditions. Therefore, when littered, they will have a similar impact on aesthetics and marine life as HDPE plastic bags.
- **Reusable Bags:** Reusable bags can be made from plastic or cloth and are designed to be used up to hundreds of times. Assuming the bags are reused at least a few times, reusable bags have significantly lower environmental impacts, on a per use basis, than single-use bags. Some of the reviewed LCAs indicate that use of the non-woven plastic reusable bag results in particularly large environmental benefits.
- **Effects of Policy Options on Single-Use Bags:** In other regions of the world, fees and bans on bags have resulted in dramatic drops in consumption. For instance, the Irish plastic bag tax immediately resulted in a greater than 90% reduction in use. Due to California law AB2449, no fee program on plastic bags can be introduced. However, bans on single-use plastic bags, as well as fees on other single-use bags, may be implemented to minimize use.

The GCC report cited life cycle greenhouse gas assessments that found the production, distribution, and disposal of paper bags cause 2 to 3 times the greenhouse gas emissions of a single use HDPE plastic bag. The report also found that there are GHG issues with biodegradable bags and reusable bags.

Recommendation

Given that it is a priority of the City of Cambridge to reduce and minimize greenhouse gas emissions, CPAC recommends that the climate change implications of the proposed plastic bag ban ordinance be considered and taken into account. Most ordinances that ban plastic bags are structured as efforts to discourage single use bags of any sort and encourage the use of reusable bags. The Green Cities California report provides support that reusable bags are the best option.

CPAC recommends that the City include in any ordinance that bans single use plastic bags a requirement that retail stores impose a fee on paper bags and require a minimum amount of post-consumer recycled content. CPAC also recommends that “biodegradable” bags be included in any ban on plastic bags.