



Make the Pittsburgh Region Even Cooler in September 2010:

Give Old Junk a New Life
Keep New Junk Out

Assumptions and Carbon Calculations

GREEN: Join The Freecycle Network™ or donate things you don't want to a resale shop

This action is not calculable for carbon impact for a variety of reasons. You can donate almost anything for resale. We simply cannot list everything or have a calculation for every item.

GREENER: Cancel unwanted mail, sign up for paperless e-billing

A. Junk mail reduction:

- The average person gets 41 pounds of junk mail per year.⁶
- Signing up with DMA Choice stops at least 80 percent of junk mail.⁷
 - ➔ 41 lbs of junk mail x .8 = 32.8 lbs reduced
- Assuming that your junk mail is magazine type paper, eliminating 32.8 pounds of junk mail would save 86 pounds of global warming pollution:
 - ➔ Average person generates 0.009 metric tons of magazines.⁸
 - ➔ Global warming pollution savings from recycling this amount is 52 pounds of CO₂ (based on EPA Household Emissions Calculator)
 - ➔ 52 lbs CO₂e / (.009 metric tons x 2204.6 lbs/metric ton) = 2.62 lbs CO₂ saved per pound of magazine
 - ➔ 32.8 lbs x 2.62 lbs CO₂e = 85.94 lbs CO₂

⁶ <http://www.41pounds.org/>

⁷ <https://www.dmachoice.org/dma/static/faq.jsp>

⁸ http://www.epa.gov/climatechange/emissions/ind_assumptions.html

B. E-billing:

- 6.6 pounds of paper and 171 pounds of CO₂ can be saved by switching to e-billing.⁹

⁹ <http://www.payitgreen.org/get-the-facts.html>

The Results of these actions yield CO₂ savings of 250 lbs. of global warming pollution per year.

GREENEST: Bring reusable bags when shopping

This assumption comes from “Green Thing”

<http://www.dothegreenthing.com/wiki/display/WIKI/Transport+your+food+more+ecologically+-+don%27t+use+a+plastic+bag>

- According to environmental consultancy Best Foot Forward, the carbon intensity of plastic is **6.25 kg CO₂ per kg.** ¹¹
- In comparison the carbon intensity of cotton is **4.10 kg CO₂ per kg.**
- 17.5 billion bags are used in the UK each year, which is about 380 per shopper. Assuming that the weight of a single plastic bag is about 10g:

Amount of CO₂ emitted by manufacturing plastic bags: $6.25 \text{ kg CO}_2 \times 0.01 \text{ kg} = 0.0625 \text{ kg per bag}$ or
 $0.0625 \text{ kg} \times 380 = 23.75 \text{ kg per year.}$

Assuming that a cotton bag is around 150g

Amount of CO₂ emitted by cotton bag: $4.10 \text{ kg CO}_2 \times 0.15 \text{ kg} = 0.615 \text{ kg per bag}$
 $= 0.615 \text{ kg per year}$

- So carbon saved by **not using plastic bags** and using a reusable cotton bag instead:
 $= 23.75 \text{ kg} - 0.615 \text{ kg} = \mathbf{23.14 \text{ kg CO}_2 \text{ per year; converted into pounds}}$
 $= \mathbf{4.3 \text{ lbs. per month, 52 lbs. per year}}$

¹¹ <http://www.bestfootforward.com/downloads/itsinthebag.PDF>