

Reducing Hot Air at City Meetings: Calculating the Carbon Footprint of Printed Meeting Materials

Have you ever cringed at the size of meeting packets and wondered at the environmental impact? While the City of Madison uses 100% post-consumer recycled paper for its printing, there are wider implications than “killing trees.” What about the “carbon footprint” of meeting packets?

What is a carbon footprint? The term has been kicked around a lot recently in the media and in environmental circles. The basic idea is to determine the entire impact of a product or process on the levels of atmospheric carbon. For our purposes, this means thinking about not only the paper, but the energy required to make and ship the paper as well as the electricity used to run the photocopier.

Why should we spend time figuring out the release of atmospheric carbon from meeting packets? What’s the impact? Atmospheric carbon is directly linked to climate change. As the concentration of carbon increases, so does the atmosphere’s tendency to trap energy from sunlight. This causes large-scale disruptions in weather patterns: not just warming, but more extreme weather of all kinds. Climate change impacts farmers (and thus our food supply), rain and groundwater levels (and thus the water we drink) as well as floodlevels (and any of our houses that happen to be in the way). Together, these changes adversely affect our economy and thus tax revenues and thus **our jobs**.

The following is a method for estimating the “carbon footprint” of your meeting materials, that is, the amount of carbon dioxide released into the atmosphere as a result of printing packets.

There are two basic elements to account for: paper and electricity for printing/copying. For simplicity’s sake, ignore the electricity to power the computers and light the offices, as these would presumably be on whether or not you are making a meeting packet.

Here’s the formula:

$$\text{(Reams of paper x 13.5) + (Hours of printer use x 7.7) = Estimated Pounds of CO}_2$$

Conventional paper has a carbon footprint of 18.5 lbs per ream. Recycled paper saves 5 lbs of CO₂ per ream, for a net of 13.5 lbs. Every 500 sheets printed or copied represents 13.5 lbs of CO₂ that were released into the atmosphere in the manufacture and transportation of that paper.

Our efficient multifunction printer/copiers use about 3.5 kw/H (kilowatts per hour) while printing. The vast majority of the electricity we use comes from coal-fired facilities. A coal-fired plant releases 1 kg (2.2 lbs) of CO₂ per kwH, so the printer or copier counts for 7.7 lbs/hour.

As an example, let’s take 10 copies of a meeting packet of 100 pages. That’s 2 reams of paper. Let’s assume it takes you about half an hour to make the copies:

$$\begin{array}{rcl} 2 & \times & 13.5 & = & 27 \text{ lbs CO}_2 \\ + & .5 & \times & 7.7 & = & 3.85 \text{ lbs CO}_2 \\ \hline & & & & & 30.85 \text{ lbs CO}_2 \end{array}$$

The “carbon footprint” of your packets would be just under 31 lbs. This is roughly equivalent to driving a moderately efficient car 30 miles or, more whimsically, setting a 4 foot Christmas tree on fire just to watch it burn. If you’re having trouble convincing committee members to accept electronic packets, you could politely inform them of the carbon footprint of printing meeting packets: There’s more than one source of “hot air” at city meetings!