

SUSTAINABLE DESIGN GUIDELINES



Sustainable Design Guidelines are applicable to everyday office life, where higher education organizations and groups can make simple decisions with sustainability in mind.

Developed by Rebecca Schaefer with assistance from WMU's Office for Sustainability
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PRINTING: INK

Print with low-VOC ink.

The EPA defines VOCs or, "Volatile organic compounds," as "organic chemical compounds whose composition makes it possible for them to evaporate under normal indoor atmospheric conditions." VOCs can be harmful both outdoors and indoors, because they are released during the use of everyday products. Some of these products include cleaning supplies, printing inks, paint and glue. The EPA article, *Technical Overview of Volatile Organic Compounds* states, "Indoor VOCs react with the indoor ozone even at concentrations below public health standards. The chemical reactions produce sub-micron sized particles and harmful by-products that may be associated with adverse health effects in some sensitive populations." It is possible to reduce VOCs by purchasing low-VOC ink, which uses a soybean oil alternative. Another EPA publication, *Pollution Prevention for the Printing Industry*, says, "Soybean oil-based inks can replace 20 to 40 percent of petroleum based oils in ink. The soybean oil replacement is said to reduce volatile organic compound content by as much as 80 percent."

PRINTING: PAPER

Avoid printing on thick paper.

Standard printing paper ranges in weight from 20 to 32 lb per 500 sheets and standard card stocks range in weight from 50 to 110 lb per 500 sheets. When purchasing paper, search for 10 to 15 lb bond paper and use card stock as little as possible to reduce resource usage.

Use sustainably harvested paper that is FSC certified.

FSC stands for Forest Stewardship Council; their mission is, "To promote environmentally sound, socially beneficial and economically prosperous management of the world's forests." FSC certification requires abiding by 10 principles and 57 criteria, which ensures environmentally and socially sound forest management tactics. Management must adhere to all laws, respect local cultures, monitor forest usage, promote the conservation of resources and more.



Search for this logo to see if products are certified!

Use paper with a high concentration of PCW that was processed chlorine free.

Post-Consumer Waste (PCW) is paper that has been used by a consumer, properly separated from other waste and recycled. Because post consumer paper has been recycled from used paper, it is less costly and saves materials from intentional crops. Bleaching paper creates highly carcinogenic chlorate organic compounds; buying processed chlorine free paper (PCF) is a better alternative.

Print double sided.

Printing double sided is an easy way to reduce your environmental impact. It is both environmentally and economically sound, because less paper will be used and resources will be saved.

IT managers can set printers to default to double-sided printing using software to make it institution wide.

PRINTING: FORMAT

Avoid full-bleed designs.

Full-bleed designs have no white margin; ink goes to the end of the page, because the design is printed on a larger sheet of paper and then cut to the proper dimensions. This creates trim waste; the larger the job, the more waste created.

Go digital when possible.

Not everything must be printed – digital designs created for email, websites and social media purposes are incredibly effective ways of communicating.

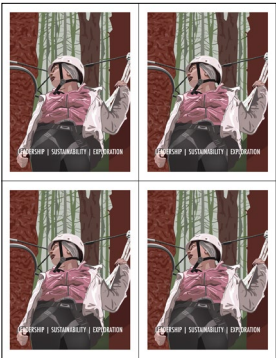
Use mechanical book binding.

Mechanical binding uses metal or plastic rings to hold pages together (see below). Mechanically bound books are the most recyclable, because the paper is not coated in glue and other non-recyclable materials.



Format press sheets.

When printing, format the press sheet to eliminate trim waste (see below). By knowing the print size options ahead of time, you can determine your document size based on how well the design will stack together.



This is an example of a 8.5x11" print that had zero trim waste.



This is an example of a 8.5x11" print that had ample trim waste.

SHIPPING

Use decentralized and on-demand printing for large scale projects.

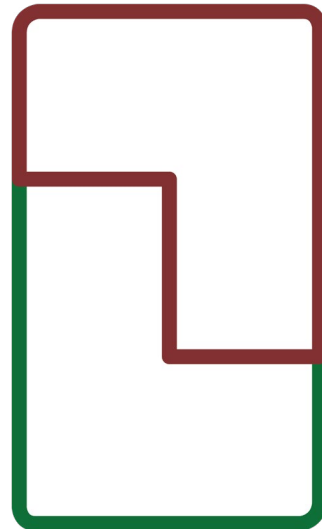
Decentralized printing uses vendors in many locations, to avoid shipping long distances. On-demand printing is printing the product only when needed in order to avoid over-production.

Use sustainable shipping materials.

Use recyclable or compostable shipping materials or invest in quality packaging that people can and want to reuse.

Use smart packaging that minimizes dead space.

Dead space is empty space in packaging; when packaging is designed better, items fit snugly inside the shipping container (see below). Minimizing dead space is both environmentally and economically sound, because using items that stack well in boxes for shipping means less boxes are used and less waste is created.



GREEN PRODUCTS

You can ask your current suppliers about sustainable products such as soybean oil-based printing inks or paper that is FSC certified and chlorine free. Many businesses offer these products and if your current supplier does not, it is likely that another supplier in the area does.

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