Developed by CivicAction's Greening Greater Toronto,

in collaboration with the Green Paper Action Group

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Green Paper Choices for Procurement Executives

Conclusions of the Green Paper Action Group

Objectives of this Report

The Green Paper Action Group was formed by the Green Procurement Leadership Council of CivicAction's *Greening Greater Toronto* to determine the best environmental paper practices available to organizations, and to explore opportunities for joint action. The group conducted a series of consultations with stakeholders throughout the supply chain and industry, as well as a review of research.

Though no significant opportunities for co-operative purchasing action were found, the group did identify and clarify the best options and opportunities available to individual organizations to reduce the environmental impact associated with paper use, as follows in this report.

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Unless expressly stated otherwise, the opinions, findings, interpretations and conclusions expressed in this report are those of Greening Greater Toronto and the Green Paper Action Group members, and do not necessarily represent the views of the participating organizations.

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About Greening Greater Toronto

Greening Greater Toronto (www.greeninggreatertoronto.ca) is an initiative of CivicAction (www.civicaction.ca), a coalition of thousands of civic leaders who develop and launch solutions to pressing social and economic challenges in the Toronto region. More than 200 partners from corporations, industry, government, and the non-profit sector have joined the Greening Greater Toronto initiative. They and others are engaged in programs to support the vision of a flourishing region through environmental action and innovation, including: driving adoption of energy efficiency measures in Toronto region office buildings; investing in community emission reduction projects; and leveraging organizations' purchasing decisions to reduce environmental impact.

Introduction: Six Opportunities for Action

Each office worker in North America consumes an average of 10,000 sheets of paper each year, and sheet copy paper is only one of the many paper products used in an office environment.[1] In the Industrial, Commercial and Institutional (IC&I) sectors, paper and cardboard products account for about 40 per cent of the non-construction waste generated. The percentages are far higher when you consider the office environment alone. Less than half of these products are recycled and most ends up in landfills.[2]

The sheer volume of paper consumed makes paper one of the most conspicuous and universal corporate procurement items, and a key topic in any discussion about reducing environmental impact through procurement.

After a series of consultations with stakeholders throughout the supply chain, as well as a review of existing research, the group identified six key opportunities to reduce the environmental impacts associated with paper use, from the simple to the complex, and from the highly visible to the more pervasively effective. These opportunities are:

1. **Use Less Paper**
2. **Source Certified Paper**
3. **Understand Recycled Content and Purchase Judiciously**
4. **Recycle Carefully**
5. **Apply Criteria Comprehensively**
6. **Look Beyond the Paper to the Producer**

The following pages examine the opportunities in depth, and provide tangible ways for organizations to reduce the environmental impacts associated with their paper purchasing, consumption and disposal practices.

[1] (Responsible Purchasing Network, 2008)
[2] (RIS International Ltd, 2005)

1 Use Less Paper

The most effective way to reduce the environmental impact of paper purchasing is to simply use less paper, conveniently lowering costs as well. Today many organizations are adopting methods to reduce paper use, whether for the environmental gains, the reduction in paper spending or the reduction in the number of printing devices or ink use.

Tactics

Replacing single user printers with multi-functional devices (MFDs) is something most offices in North America are doing. Many organizations consulted had explicit targets for ratios of employees to machines, though the targets varied widely between organizations - as low as five and as high as two dozen people per machine. MFDs are shared between more people, can print, copy, scan and fax, and are marketed as more efficient on a per sheet basis when it comes to electricity and ink consumption.

> *…the major advantage of MFDs is they vastly improve an organization's ability to track and understand printer use…*

Note however, that MFDs do not necessarily reduce paper consumption. On one hand, MFDs likely reduce the paper wasted due to printing mistakes which tend to be more common with smaller printers. On the other hand, MFDs make printing easier and faster which may inadvertently encourage employees to print more often. Though they may not directly reduce paper use, the major advantage of using MFDs is they vastly improve an organization's ability to track and understand printer use, an important first step towards building awareness about paper use and setting reduction targets.

Despite this, the ability to network and track printing devices and their use is the first step in building awareness of paper use and setting targets for reduction.

Moving to digital processes is another almost ubiquitous tactic to reduce paper use. This includes digital billing and invoicing, digital reporting and statements, digital records filing and digital communications (from email to scanned PDFs that replace faxes). The extent to which processes have been made digital and the corresponding impact is difficult to determine and compare between organizations, since the processes at each organization can vary widely. For instance retail companies with large direct mail campaigns would have a larger impact by switching to digital direct marketing than a business-to-business company. The difficulty in estimating the impact of these programs is most easily solved by observing the effects in reduction in overall volumes of paper used for continuing operations.

Employee education programs and default double-sided printing are two tactics that have wide but not universal adoption. The former is usually popular as an appeal to staff to self-regulate behaviour and is used as an example of positive employee engagement. However as with many awareness and broad education programs, it may not have substantial impact and often exhibits steep diminishing returns over time even if there is significant initial impact.

Default double-sided printing is a more reliable and often successful method to reduce consumption as it depends on a centralized decision and is modeled as an opt-out choice.

There are instances, however, where it has been abandoned after a trial period. As an example, one professional services firm reported high resistance to the change among staff because they engaged in a particular kind of group work editing for which they preferred single sided sheets to arrange visually on a table. The feedback they received was that the double-sided printing setting actually resulted in more printing, because after printing accidentally on both sides, that copy would be thrown out and the print job resent with the changed settings.

Additional technology and cultural changes are at the heart of the most ambitious efforts observed to reduce paper consumption. In one office, each employee is provided with a laptop and each meeting room with a projector and a long VGA cable for switching between computers. A blanket wifi network is also provided so people at meetings or away from their desk can still access project files on the network with their computers. The cultural change then becomes important to encourage employees to bring the laptop to each meeting and encourage senior executives and meeting organizers to be comfortable with people using laptops in meetings.

Convincing hold-out employees to take part in any transformation was reported as one of the most important steps in reducing paper use. In some organizations, senior executives are more likely to have personal printers and are sometimes more reluctant to give them up. Others reported that some senior executives feel less need to change habits such as printing emails before reading them, although at other organizations there were examples where management was leading the transformation. In any case it is clear that enlisting the support of the less amenable employees is critical in any program.

Metrics

Measuring paper use is difficult and often problematic for organizations. In general, paper use varies widely between organizations. Professional service firms, for instance, have paper consumption rates that often significantly exceed other types of work. Similarly, regular business growth in almost all organizations will usually produce a corresponding increase in paper consumption as more offices are opened and employees hired. There is disagreement about whether this should be reflected in metrics or whether there should be an effort to isolate consumption due to continuing operations.

*Best practices in an office that has implemented a 'paperless' strategy can lead to consumption of **less than 2,000 sheets** per person per year.*

The most useful solution is to measure **sheets per full-time employee per year.** This focuses on a product common to most offices – letter-sized copy paper – and attempts to control for business growth by dividing by employees. Anecdotal evidence suggests that while the average office may consume around 10,000 sheets/person/yr, best practices in an office that has implemented a 'paperless' strategy can lead to consumption of less than 2,000 sheets/person/yr.

While possibly the best solution, this metric has limitations. Sheets of copy paper are far from the only paper product contributing to consumption, and this metric excludes the large volumes of commercial print, direct mail and other paper products that are consumed. Further, not all full-time employees are comparable and offices that rely on high levels of contract labour, or offices that share space and employees with manufacturing facilities, rightly feel that the metric is not a universal value.

Two other metrics are sometimes used. One is **total tonnes of paper products purchased each year**. This metric is not at all comparable with other organizations, nor does it distinguish between business growth and continuing operations. It is however a more comprehensive metric of paper consumption and allows a company to set targets for year on year reductions.

The third metric focuses on **measuring discrete reductions in consumption** rather than total paper use. For instance a company may calculate that switching to double-sided printing saved X tonnes of paper each year. This metric deliberately abandons any possibility that it will allow comparison of performance over time or between offices. It also prevents an appreciation of the scale of the impact, as it doesn't reveal the total consumption and whether the reduction was 20 per cent or 0.02 per cent.

2 Source Certified Paper

After reducing paper use, the most common green paper procurement practice and the least controversial is the use of certified paper. This refers to paper that has been certified under a particular brand and standard to testify to the good forestry practices used when harvesting the raw fibre for the paper. Examples of such schemes are provided below.

Features

Paper certification schemes mostly focus on the source of the fibre used in the paper product and concentrate on the use of sustainable forestry practices. This includes the limitation of clear cutting and burning and re-planting, among many other practices. Some schemes include innovative elements such as chain of custody to ensure that the source fibre is certified no matter how many hands it passed through, or serial numbers to ensure that the end user can confirm that the producer has been registered. Most schemes have a variety of labels available that will distinguish how much of the fibre in the product has been certified. More details on what forestry certification accomplishes can be found elsewhere.[3]

One of the advantages for an organization sourcing certified paper products is that it is an easily marketed initiative, well suited to customer advertising and promotions. Most certification schemes have corresponding labels that appear on finished products and are visible to the end user each time they pick up a product, serving as a brand in their own right. Certification also applies to far more than just copy paper, and today there is a certified version for almost all paper products.

[3] (Overdevest, 2010) (Wichmann, 2009)(Responsible Purchasing Network, 2008)

Certification refers almost exclusively to forestry practices. Manufacturing and transportation is mostly excluded and a label will not speak to the efficiency of the production, how far the materials have travelled or the corresponding emissions that have been produced.

Also, certification schemes do not treat recycled content with the same level of detail as virgin fibre. While some labels will specify that there is recycled content at a certain percentage, there is no chain of custody involved or assurances of where the fibre came from or how efficient was the recycling process. In our conversations, representatives suggested that this is not a capability that is likely to be developed in the future since the supply chain for recycled fibre is much more complex and difficult to track than virgin fibre harvesting.

Comparison of Standards

The most widely known standard observed in North America is the Forest Stewardship Council (FSC). Two other standards that were often referenced in conversation were the Sustainable Forestry Initiative (SFI) and the Canadian Standards Association (CSA), and there are others. Some organizations have put a great deal of effort into comparing the standards on a point by point basis.[4] Two conclusions emerge in examination of these materials.

First, the quality of the certification schemes can change over time and in some cases has improved significantly over the last few years in response to consumer and non-profit stakeholder input. Second, there are many different arguments in favour of one standard over another and any serious evaluation must involve not just the stated features of the certification program but also their governance and implementation. Even the most highly regarded standards have their critics.

*The price premium for certified paper **no longer exists** to any significant degree for large volume purchases*

The purchasing companies surveyed varied in their opinions regarding one standard over another. Some clearly preferred a particular standard (usually FSC). Many others discussed a policy of being 'certification agnostic', accepting any certification that could guarantee a particular environmental performance.

Price

An issue frequently discussed during consultations is the common misconception that certified paper is more expensive than other uncertified paper. Most buyers consulted agreed that while in the past there had been a noticeable price premium placed on certified paper, that premium no longer exists to any significant degree for large volume purchases due to how widespread the certifications have become. This is supported by research into retail prices for small volume purchases as well.[5]

[4] (Wichmann, 2009)
[5] (Responsible Purchasing Network, 2008) (Environmental Defense Fund and Citigroup, 2004)

Use in Procurement

Approaches to certification when it came to actual purchasing practices varied in our consultations. Those organizations that had a clear preference for one standard would usually specify a need for that standard in their Request for Proposal (RFP), or alternately allot a significant point penalty/bonus for the presence/ absence of the standard in any bids.

Organizations preferring to be certification agnostic would use a similar approach but include language such as "FSC, SFI, CSA or equivalent" or "any applicable standard or certification". This puts the burden of proof on the vendor to demonstrate the value of their certification while leaving room for any certification to be considered. Buyers would then retain discretion on how they would weight one certification versus another on a case by case basis.

A few buyers did mention that there is some concern in the marketplace over the availability of FSC credits in particular (required to certify a certain amount of forest). If demand in the future for FSC paper exceeds the ability to certify forests, constrained supply could lead to higher prices. This has not yet been observed but has been a factor in some purchasing decisions.

3 Understand Recycled Content

The purchase of paper with recycled fibre content (also known as post-consumer content) is another area to consider in reducing an organization's environmental impact. The issue of whether to buy recycled paper and how much was one of the most pressing questions on the minds of the paper-consuming organizations that were consulted. Opinions varied on the actual associated environmental impact and a number of different practices were observed, partially based on the uncertainty of the price and the usability of recycled paper.

It is worth giving priority to the purchase of recycled products which are known to be greener due to more efficient and less intensive recycling processes.

Environmental Impact

With respect to brand and marketing of Corporate Social Responsibility (CSR) efforts, there is little doubt that recycled paper is good for the environment. This is supported by earlier comprehensive analysis done on the environmental impact of paper, specifically by the 1995 Paper Task Force, organized by the not-for-profit Environmental Defence Fund, Duke University and a number of corporate partners.[6] These unequivocal findings were endorsed by the U.S. Environmental Protection Agency and are a common source for paper calculators and other tools used today to demonstrate the impact of various kinds of paper and their use.

[6] (The Paper Task Force, 1995)

Recently various stakeholders in the paper industry have published articles and commissioned research that makes a case for a more nuanced understanding of the best level of recycled content in a paper product.[7] They correctly point out that paper comes from a renewable resource (if responsibly harvested) and that paper itself is often made from timber by-products in a low-waste process. They also present an analysis of how degradation of fibres over time means that recycling cannot be repeated indefinitely and there will always be a need for a certain amount of virgin fibre input into the paper manufacturing process. Neither of these points are contended in any research found, but nor do they contradict the life-cycle environmental impact analysis of virgin versus recycled paper that shows recycled paper to be a better choice when available.

Prices for paper with up to 30 per cent recycled content do not significantly exceed virgin paper prices

Some ambiguity enters the picture when discussing the actual manufacturing process and the particulars of energy use and emissions sources. The recycling process can be quite energy and chemical intensive, depending on the level of degradation of the fibres used and the targeted brightness of the final product, which requires binding additives and deinking chemicals respectively. Recycled fibre can also produce more of an impact if it travels around the world for processing, due to the vagaries of the recycled fibre market supply and demand.

A more recent life-cycle analysis that takes into account all of these factors, however, continues to support the earlier conclusions that recycled paper is better than virgin paper, but with qualifications.[8]

Price

In response to increasing consumer awareness of environmental issues over the last decade, demand has increased for fine office paper with recycled content. As a result, enough manufacturers have started producing sufficient quantities of 30 per cent recycled fibre content paper that prices today do not significantly exceed virgin paper prices, according to the stakeholders consulted and a number of corresponding reports.[9]

Paper with recycled content above 30 per cent however, can be more expensive than virgin paper. One company consulted had accepted an estimated 20 per cent premium for requiring all paper to be one hundred percent recycled. Manufacturers and distributors report that this premium is unlikely to change anytime soon, due to the realities of available manufacturing technologies and the price set for bulk recycled fibre.

[7] (Domtar, 2008) (Metafore, Inc., 2009)
[8] (Merrild, Damgaard, & Christen, 2008)
[9] (Michaud, Farrant, Ja, Kjær, & Bakas, 2010)(Responsible Purchasing Network, 2008)

Usability

There have always been concerns that recycled paper produces more dust, harms machinery and may even void warranties. Most research sources and a number of the businesses who have moved to 100 per cent recycled paper report that quality is much improved over the last few years and this is no longer a significant issue.[10] Nevertheless, some businesses report that there are still increased associated costs in higher copier and printer maintenance, up to 10 per cent.

Conclusion on Recycled Paper

On balance, recycled paper products generally have a smaller environmental impact than virgin fibre products and therefore should be purchased when possible.

Given the qualifications in this conclusion and the factors that affect it, it is worth giving priority to the purchase of recycled products which are known to be greener due to more efficient and less intensive recycling processes. The recycled fibre products that are most likely to have less of an environmental impact are coarser, darker and less durable, requiring fewer additives and chemicals. This includes packaging, cardboard, tissue products and bathroom supplies. It does not include fine white office copy paper, which, environmentally speaking, is less important to buy recycled than all the other paper products purchased within an organization.

A company may choose to buy recycled paper after having moved to recycled paper content in other paper products, or it may give priority to the purchase of recycled copy paper because it is more conspicuous to employees and customers and has a larger impact on brand and CSR marketing. If this is the case, purchasers can expect to pay premiums for content above 30 per cent as well as other possibly increased costs in associated maintenance.

4 Recycle Carefully

Organizations have an important role to play in increasing paper recycling rates – the rate of used paper that is recycled rather than sent to landfill. Recycling paper means that fibre—in high demand for use in coarse or low durability products as well as copy paper--is reused or incinerated to produce energy rather than entering landfills.

Separate collection streams (e.g. copy paper is separate from paper cups) contributes towards lowering the environmental impacts associated with manufacturing post-consumer content products

Recycling paper provides a consistent supply of fibre and if different kinds of waste paper are kept separate, recycling programs contribute towards lowering the environmental impacts associated with manufacturing post-consumer content products. The reason for this is that fewer additives and chemicals are required in the manufacturing process when high quality fibre contained in virgin fine copy paper is kept separate from lower quality, degraded fibre from other paper products.[11]

[10] (Responsible Purchasing Network, 2008) (Environmental Defense Fund and Citigroup, 2004)
[11] (Michaud, Farrant, Ja, Kjær, & Bakas, 2010)

Current waste audits suggest that recycling is an area in which North American businesses have significant room for improvement. Typically in North America, less than half of all paper products used in the industrial, commercial and institutional (IC&I) sector are diverted from landfills.[12] By contrast, recycling rates in many European countries are much higher. The recycling rate in the UK for instance was 60 percent for all paper sources in 2007, and efforts are underway to reach more ambitious targets. [13]

For this reason, it is very important that there be separate collection streams in offices (e.g. copy paper is kept separate from paper cups) combined with effective employee engagement in recycling programs. Some organizations consulted combined this with innovative initiatives such as closed-loop recycling programs in which diverted paper products are sent to the same processing plants from which new paper products are purchased. Such programs reduce overall environmental impacts associated with recycling by reducing the likelihood that fibres and paper products will be transported over unnecessarily long distances.

5 Apply Criteria Comprehensively

Whatever policies an organization puts in place, it is important that they are comprehensive. While copy paper is perhaps the easiest paper product to track in the office, and commercial printing, such as annual reports, are the most visible to end-users, they represent only a portion of total paper consumption.

Programs that target a single category of paper product are limited in their ability to reduce the overall environmental impact of paper purchasing. Programs will be most effective if they target a number of paper products. For instance, if certified or recycled paper is preferred, it is important to ensure envelopes, notebooks and paper used by contracted printers adhere to these standards. When commitments are made to achieve targeted reductions, the metric should include all paper products and not just letter-sized copy paper.

Though this is a simple concept, it is often overlooked. In some cases, it may be difficult to find small-volume products that are certified, though this is rare given certification has become widespread, covering items from envelopes to notebooks. In other cases, it takes a great deal of effort to quantify volumes of less standardized products, for instance determining how many filing boxes are bought. Nevertheless, it is important to be as comprehensive as possible to maximize the impact of a green paper purchasing program.

[12] (Responsible Purchasing Network, 2008), (RIS International Ltd, 2005)
[13] (Michaud, Farrant, Ja, Kjær, & Bakas, 2010)

6 Look Beyond the Paper to the Producer

As stated above, manufacturing processes and distribution practices can be critical determinants of the embedded environmental impact of a paper product. Since this impact cannot be observed in the inherent properties of a product, it is important to look beyond the product to the producer.

Evaluating the Supply Chain

Some factors that contribute to environmental impact of a product can be addressed directly. It is possible to enquire about the source of the paper and how far it travelled from forest to factory to consumer. A preference for local products and manufacturing was expressed by some buyers consulted, though the information necessary to determine original source was not always available from the vendor, especially in the case of recycled content.

Other relevant environmental factors, such as emission levels of transportation fleets or the energy-efficiency of paper mills, include too many variables and too many sources to be tracked by the buyer without an extraordinary investment of time and effort. These factors can most easily be addressed collectively through vendor-initiated carbon audits and accounting of total operations, preferably with third-party certification of results. Even if the accounting does not easily allow one supplier to be compared to another directly, it provides credibility for targeted reductions and other environmental claims. A number of standards are available to aid in this accounting, including the popular Carbon Disclosure Project. Wal-Mart is well known as a company that has an explicit preference for suppliers who participate in this initiative.

*A more innovative approach is to **coordinate deliveries** between offices within a building or geographical area.*

To go even further, organizations should consider taking greater depths of the supply chain into account. Although currently unfeasible, it will increasingly be possible for organizations to do so by requesting not only that their immediate suppliers provide carbon audits or other environmental data, but that they collect the same data from their own suppliers.

Improving the Supply Chain

Leading organizations consulted for this report do not stop at evaluating their supplier practices but also cooperatively introduce changes to their supply chain. For example, a common practice which is environmental as well as cost-saving is to reduce delivery frequency by setting a minimum purchase size or minimum delivery interval. Having fewer truck trips handily reduces carbon emissions. A more innovative approach is to coordinate deliveries between offices within a building or within a geographic area, which also reduces the number of vehicle trips made per week or month.

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