

How green is your office?

Environmental savings starts right on your desk.

We all know, or at least should know, that office pollution is a major contributor to the environmental footprint society is generating today.



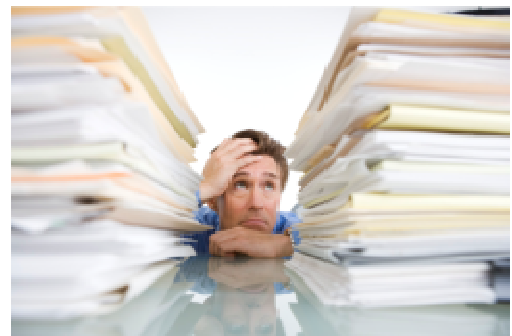
People want to know what they can do to reduce negative environmental impact, not just by using less energy in cars and domestic heating, but also in their workplaces. More and more companies now realize that they need to address the environmental problems we face today.

Governments are today starting to focus on Green IT. This initiative has come about due to the realisation that most of us spend more time using energy sapping equipment in the office than we do at home. However from most of what I have read this focus seems to be on Computers, Screens and Servers which is not surprising since there are so many of them already and more being bought every day. This also means that there is a part of office pollution that seems to be totally off the radar of most Green IT missions.

This is an area of business that seems to be totally forgotten when it comes to reducing environmental impact and waste, it is one that is growing by 5% to 10% per year (depending on which experts you read) with no visible slow down, even the financial crises has not seemed to dent it. This not only consumes energy, produces waste and pollutes the air¹, it also cost you money every day in every office and a large majority of its components have to be imported² and then exported again when used thereby increasing its environmental cost even more.

Office print = office pollution:

Very little has been done over the years to try to reduce the impact of office print in any office in the world. Some companies are just now taking steps to reduce it's cost by moving the burden of print control to outside companies by using or purchasing a Managed Print Service (or click charge system) but since the companies providing this get paid by pages printed there is no incentive to reduce the print volume, in fact there is a strong disincentive.



Companies like Gartner, IDC, Lexmark and Xerox estimate that office workers print or copy around 10,000 pages per year. According to research from InfoTrends, 779 billion sheets of paper were used in homes and offices across Western Europe in 2008 alone. Hp estimates

¹ A study of pollution caused by an unlikely source —<http://www.thedailygreen.com/going-green/latest/4653#ixzz0pN5EOapD>

² As of Today no standard office printers or Toner supplies are manufactured in Sweden
Printasset is a Swedish print consultancy that specializes in reducing the environmental impact and cost of print in offices.
For more information visit our web site www.printasset.se

that **53 trillion pages** will be printed in 2010 alone³. That's 53 trillion pieces of paper and 53 trillion toner or ink images.

One Nordic organization which we recently audited printed over 500 million pages every year and that was just from their office printers!

Where will it all go? How will we deal with it? Some people may be content with the thinking that it's all right as we can recycle the paper, which you can, but this in turn requires an enormous amount of energy to do (less than creating the paper in first place but still huge) but what about the ink and toner that's on the paper? How do we deal with that, where does it go? As of today there is no simple environmentally safe method of removing it and in the paper recycling process the toner is left as sludge to be disposed of.

As we consider the impact of office print and the fact that 1–2% of global carbon emissions arise in paper production, but the EU requires a 60% cut by 2050, we can see that in the case of office pollution we need to do more to focus on the top 2 levels of the 6 Environmental actions if we want achieve a significant saving.

To reduce environmental impact in the office we have a number of options available

Prevention: is the ideal goal but realistically this would reduce the efficiency of businesses and cause major disruption to how people work. Can you really see a print prevention program working in your company? Who would run it and how long would it last if it stopped you doing your job effectively.



Minimization: Would be great; a 10% to 20% reduction in the amount you print would have a very positive effect on the office pollution and your company's bank account. But again we hit the problem of how do you reduce your printing? You don't print at work for fun, you do it because you need to as part of your job and anything that stops you printing will ultimately affect your job.

Reuse: Not really an option as reusing paper that has already been through a laser printer will increase the number of paper jams and contaminate printer parts thereby reducing the working life of the printer. This will in turn increase your company costs.

Recycle: I hope we are already recycling the waste office paper but this comes with a huge hidden cost: In banking due to privacy, secure waste collection costs, per page, as much as the original purchase of the paper. Plus as we have already stated recycling printed paper requires huge levels of water and electricity to clean it and even then most will only be suitable for making cardboard due to the toner stains.

Energy recovery: Old paper pages can be burned and the energy from the heat can be recovered to drive other processes. There is some debate if this is a sound

³ <http://www.hp.com/hpinfo/newsroom/press/2007/070530xa.html>

environmental use of the paper and many of the environmental groups do not recommend this action. More so in Sweden where so much of the existing energy is from renewable sources like Nuclear and Hydro electro plants.

Disposal: Not very environmentally friendly, but something we are already doing and it is costing a fortune.

As of today the only recommendations we see in the market are to tell companies to stop printing as much as they do and use duplex as much as possible. Not really helpful as both these require the person responsible for the printing to take actions that they are not trained to do, do not have the time for and are actually not encouraged to do by their management.

What is required is a system that can automatically reduce your printing but without interfering with your work. Now that may sound impossible as what system could possible know what you need printed and what it could save without interfering with your work?

Well that's not impossible actually.

There are a number of new solutions entering the market that can do just that. They are called **intelligent rule based print solutions**.

An intelligent rule based print solution is basically a piece of software that sits on your desktop computer and links between the application you're using and the printer software for the printer you are printing on. The software, based on corporate standards, departmental requirements or your preferences, will reformat the document you are printing and apply the settings that best suit your way of working and the most efficient environmental savings.

Example; Your printing this word document, you know it's easier to read and carry if it's duplexed but you don't have the time to go into the printer software and find the duplex option. You also know that once you have read it you will throw it away so its value is low. The intelligent print solutions software will automatically duplex it and reduce the toner coverage by 25% to 35% (which you will not even notice) and then send it to your printer. All this is automatic and requires no actions by you. On the other hand if you were printing client letters the software would know to print it simplex (one sided) and with full toner, again automatically.

Sound impossible?

Not any more they are here and available now!

Intelligent Rule based Print Solutions:

A few important requirements for a successful Intelligent Rule based Print Solutions

- **Simplicity in use:** It is important to understand that if a print solution is to work it must not require the user to have to do anything different than they are doing today. Even asking a user to select duplex or use a different paper tray leads to confusion, mistakes, wasted prints, and time wasting. Many have tried none have succeeded. I have seen IT departments embedding printer codes in Word templates to try to do this automatically. Problem is this then locks them into a printer make or a manufacturer's DataStream. Not a good idea.

That's why a solution that operates totally in the background (you don't even want a pop up to interfere with the users work) is the only way to go. Today we have available proven solutions that can offer just that.

These solutions can be set to follow corporate standards, departmental needs or document types (yes they can even recognise 2 different word document types and print them differently if required)

- **Works with ALL printer types:** Limiting your solution to one manufacturer is also not an option. A successful solution must not limit your choice of printer make or model.
- **Works with printer Manufacturers software:** IT departments have enough problems getting support on manufacturer's drivers. Any solution must not modify, change or replace these.
- **No change to IT process or applications:** The solution must operate and live along with everything already running across the company. The solution should adapt to the way you work.
- **As little administration as possible:** Any solution that requires a large amount of administration will also eat up people time and cost and interfere with other projects. This is normally a killer for any solution or project.
- **Proof of savings:** Anyone can make claims of savings if they never have to prove they are actually achieved or can not be measured. A good solution must deliver measurable savings.

If the solution you are being offered does not meet the above criteria then it may not ever achieve the potential savings it is promising!

So what can you save with the right solution?

Based on existing customer operations typically a normal office can see a reduction of around 10% in paper usage and a 35% reduction in toner and ink.

So how does this help the environment?

10% less paper used means less paper required to be made, bought, transported, stored, replaced in paper trays in your printers, taken from output trays and then collected for waste and put through a recycling process.

35% less toner used means 35% less toner cartridges made, bought, transported, stored, changed, and old ones disposed of and new ones imported. And of course all this also means less cost to your company!

All these saving and you do not have to change the way you work. It all happens quietly, automatically in the background letting you get on with your work while the software saves the environment and your companies expenses.

Additionally the proof of savings will supply more information on how you print, what you print and how your printers are being used. This information can be invaluable when planning printer replacements or resizing your printer fleet.

But what about your office printers?

Office printers come in all size and shapes and technologies. You can buy Personal printers, workgroup printers and large multifunction devices, Laser, thermal, solid wax and inkjet. All consume power, all consume supplies (toner or ink) and all eat large volumes of paper every year.

Let's consider just some of what is involved in owning a printer from an environmental perspective.

- Energy and material required for Manufacturing the printing machine (no information available)
- Packaging material (cardboard and paper, no information)
- Transportation from factory to your office
- Electricity consumed during usage (Avg 500 to 1000 watts, laser printer)*
- Energy consumed while not printing (Avg 27 to 200 watts, laser printer)*
- Paper and toner/ink while printing (already covered)
- Toner or ink used when calibrating (on power up or head cleaning)
- Ozone emissions and air pollution
- Heat from fuser and electrical parts (effects office air conditioning)
- Supplies packaging and transportation
- Old toner or ink cartridges removal and disposal
 - *(GHGs (green house gases) emissions from manufacturing a single mono toner cartridge have been calculated to approximately 4.8 Kg CO₂; per cartridge.)*
- Uncollected Waste prints (required to be removed and disposed of from your office)

Now how many printers do you have in your company?

**(Over the past 10 years all offices devices (computers, copier etc have been designed to offer multiple power settings and printers are no different. Today an office printer has a power setting for printing (around 500 to 1000 watts), sitting idle but ready to print (around 25 to 200 watts) and power saver (around 7 to 15 watts.) If your printers are older than that or does not have these options you could be burning a lot more power than you need to.)*



So now you know how power hungry your office printer is how can you improve this?

1. If you buy printers:
 - a. Ask your supplier for clear calculation based on expected usage as to your power consumption from their device
 - b. Ask for details on the environmental effect of manufacturing the device
 - c. Ask them to prove their toner and ink recycling and disposal processes (*a number of so called recycled cartridges just get dumped in china*)
 - d. Ask them to declare the VOC content of their toners
 - e. Ask them for particle and ozone emissions of the product (*during its life not just when new*)
 - f. Ask about warm up times from power saver mode and what power is required and how long it takes (*If you have a printer that prints 25 pages per minute but only print to it every 15 minutes then you not only have to consider the power used when printing but the 1 or 2 minutes of high power consumption to get it ready to print. {2 minutes of power up @500watts every 15 minutes} and that's before you print a page.*

- g. Consider the type of work the printer will be used for. Most Multi Function devices from Japanese companies have A3 paper size as standard (that's because A3 is the standard in Japan) do you need A3? If not don't buy one buy an A4 only instead and save plastic.
 - h. Ask your suppliers what features they offer to reduce print and or consumable use.
2. Running printers:
- a. Make sure they are all capable of power saver mode (*get rid of those that do not*)
 - b. Make sure they are switched off at night (*even the big multi function*)
 - c. Reduce the number of personal printers (*but not all of them*)
 - d. By default set them all to print duplex
 - e. Set all drivers to default to monochrome (this reduces the accidental colour prints by people who use a colour printer as their local default printer)
 - f. Place laser printers in areas that have good ventilation (*not next to people*) to remove air pollutants from toner and reduce ozone build up
 - g. Run a print management software to measure the usage of your devices so you can see where your main printing is happening and that you have the most cost effective devices where your printing is highest (*this can save you multiple times the cost of the software*)
 - h. Make the waste bin at each of your printers very small (*this makes the waste look much bigger and embarrasses people into not leaving their print in the printer.*)
 - i. Use a tracker system to identify print jobs. This will dramatically reduce the amount of uncollected prints if the user knows there name or department is on them.
 - j. When installing an new printer get the supplier to offer printer training (either by person or via interactive web education)
 - k. Consider using pull printing (printers that have swipe cards that only print when the user goes to the machine and requests their print)
 - l. Supply management how will you manage supply purchase, storage, replacement and disposal.

3. Managed print Services: (MPS)

Before you implement a managed print service there are a number of items you should consider.

- a. Do you know enough about your present print system to know what you need?
- b. What do you want to save most; Money, time, environment, space?
- c. How will you measure your success and will the supplier be tied to any contractual penalties for failure to provide proof of success?
- d. Will an MPS cover all your print needs or will you have to adapt your business to suite your suppliers offering?
- e. How will an MPS effect user productivity?
- f. How will an MPS help you reduce your print volumes and waste, do you have targets identified
- g. Supply management. Who does it and how is it to be managed?
- h. Can your MPS provider allow you to change models mid contract? (if volumes increase or decrease or your needs change is your contract flexible enough to allow you change printer types and cost)

If print is not on your IT radar and you have little or no environmental programs for reducing your print office pollution then these ideas may give you food for thought. If you have any questions or would like more details on any of this content please contact us at: Info@printasset.se