



WHAT DO YOU HAVE TO SAY?

## Environmental responsibility in sign and display printing



### A critical business issue for Print Service Providers

Environmental responsibility is clearly now an important theme for society at large, but several factors are converging to make it a critical business issue for Print Service Providers (PSP's).

#### Customer demand

A greater emphasis on Corporate Social Responsibility and a growing appreciation of their environmental impact is driving major retailers, consumer goods companies and outdoor advertising players – amongst others – to seek more environmentally responsible signs and displays.

#### Social responsibility

Operating in a 'greener' way is frequently seen as not only 'the right thing to do' but as important for a business's social reputation. Environmental responsibility is also linked to employee health and safety.

#### Regulation and legislation

Complying with environmental laws and regulations in areas as diverse as emissions and hazardous waste disposal can place a significant administrative burden on a PSP.

The range and strength of legislation continues to grow in many parts of the world, representing additional business risks.

#### Cost

Poor environmental performance can cost money in terms of additional equipment required<sup>1</sup>, penalty fees be paid<sup>2</sup>, waste disposal charges, landfill costs, energy bills, etc. In tough economic times reducing these costs is an attractive prospect.

Furthermore, environmentally responsible printing solutions can qualify for subsidies in some areas<sup>3</sup>

"Our clients are absolutely demanding recyclable substrates for signage and also clean inks. Those are the two things we hear most from our clients"

Andrew Akers  
VP Operations, Signs By Tomorrow  
USA

According to Infotrends<sup>4</sup>, over 27% of US PSPs' customers either prefer or demand 'green' printing.

# The key elements of environmental impact

Four elements constitute a PSP's environmental impact. All aspects of a PSP's operation can contribute to the overall impact including the printing workflow and also the transportation and even disposal of the printed signage.

## Resources

Typically driven by the materials in the substrates used, as well as the water and other resources consumed in their manufacture. However, it also includes the ink and other consumables used in the printing process. It can further include the fuel used for the transportation of the prints, etc.

## Energy

This must include energy used to print and dry substrates, to ventilate any emissions and to undertake any supplementary processes in the workflow, such as lamination. Energy to heat and light the facility may also be included. In a broader definition, the energy used in the manufacture and transportation of the substrates, ink and other consumables can also be counted. Energy usage can be expressed in terms of a "carbon footprint", the weight of CO<sub>2</sub> emitted in to the atmosphere as a result of the activities undertaken. It will vary depending upon the sources of energy used. For example, a PSP committed to purchasing energy from renewable source will have a lower carbon footprint than one that buys from a supplier that operates only coal-fired power stations.

## Emissions

Sign and display printing solutions typically generate some form of emissions when printing, though levels vary significantly between technologies. Where levels of Volatile Organic Compound (VOC) emissions are relatively high, as is the case for many solvent printers, ventilation systems must be used. VOC odors can linger on prints for some days. UV curable printers can emit some VOCs and also ozone.

## Hazardous substances

Some types of ink and substrates contain chemicals that are classified as hazardous. These can create challenges in terms of storage, handling and disposal, etc. Some VOC emissions from certain types of solvent printers can in themselves have an adverse affect an human health. The US Environmental Protection Agency (EPA) defines them as Hazardous Air Pollutants, or HAP's.

It takes 10 times as much energy to make a piece of paper as to print on it<sup>5</sup>



# Steps a PSP can take to reduce its environmental footprint

There is a broad range of actions that a PSP can take to reduce its impact on the environment. Many of these measures can also help to reduce its operating costs. It is possible to begin with modest steps and implement more significant changes over time. Here are just ten actions that PSP's can consider.

## Choose 'greener' substrates

Substrates are generally the largest single contributor to a PSP's environmental footprint. Seek out substrates that are certified as coming from a sustainable source and also those that contain some recycled content. Increasingly they can also be recycled themselves. Choosing a thinner, lighter media – perhaps of a different material can also reduce the impact of transportation.

## Recycle media

Recycling media can do more than just reduce environmental footprint. It can reduce landfill costs and in some countries recyclers will pay for waste media<sup>6</sup> – it could become another source of revenue.

## Switch off

Printing equipment consumes relatively little power when in sleep mode...but it can still add up to hundreds of KiloWatt hours of wasted energy over the course of a year. Switching printers off overnight and at weekends can cut both an operations carbon footprint and its costs.

## Select energy efficient solutions

This impacts the PSP's carbon footprint and its energy bill. It is important to consider the energy that will be needed by the whole solution – including any dryers or ventilation systems that will be required.

## Eliminate unnecessary processes

Printing directly onto rigid media rather than applying a flexible substrate to a backing board cuts out both adhesives and the potential for error and waste in this process step. Similarly, printing with a durable ink with good light fastness can sometimes avoid the need for lamination – saving both materials and energy.

## Shift to digital

Shifting more print jobs from analog to digital printers can also improve environmental performance. The economics of digital allows shorter print runs, which can reduce unnecessary prints. Make-ready and changeover waste can also be reduced and the chemicals used in digital printing are often cleaner.

## Use cleaner printing technologies

Cleaner technologies have lower emissions and contain fewer hazardous substances in the ink. Low emissions can help you to avoid the costs associated with ventilation equipment. Inks with fewer hazardous substances can simplify and reduce the cost of waste ink and supplies disposal.

## Replace aging equipment

Up-to-date machines are often cleaner than their predecessors and in many cases they will consume less energy.

## Challenge suppliers

PSP's should challenge suppliers to provide them with the information that they need to make environmentally responsible choices.

## Look beyond printing

It's important for PSP's also to think about the environmental impact of other aspects of their operation. For example, if they have a national customer, it might make sense to serve them from more than one location to reduce the carbon footprint of the transportation the prints.



20 – 30% of marketing collateral is discarded before use due to obsolete information

# What HP is doing to help

HP is committed to environmental responsibility in sign and display printing. It is already helping PSP's to become more environmentally responsible in a number of ways.

## Driving cleaner sign and display printing

HP is committed to driving down sign and display printing emissions and hazardous substances. HP Latex ink for the new HP Designjet L65500 printer is odorless<sup>7</sup> and emits extremely low levels of VOCs. The ink is also non-hazardous. Like HP Latex ink, the ink for the HP Scitex FB6700 flatbed printer is also water-based – and has low emissions – and has the durability and light fastness needed for outdoor signage. The HP Designjet FB950 flatbed printer uses low emission UV curable inks;

## Supporting recycling and re-use

The body of the HP Latex ink cartridge for the HP Designjet L65500 is recyclable cardboard. The HP Designjet L65500's printheads are recyclable through HP's Planet Partners Program. HP has also introduced a range of five recyclable<sup>8</sup> substrates for use with the HP Designjet L65500 and other printers. The printer itself is 85% recyclable and responsible disposal guidelines are available;

## Ensuring energy and resource efficiency

The HP Scitex XP2300 and XP5300 UV curable printers use only half of the ink of most equivalent printers. Unlike most rivals, the HP Designjet L65500 requires no ventilation and no external dryer;

## Providing information

HP has made extensive information available about the environmental benefits of its HP Latex inks and will be taking further steps to make the environmental information on its products to available the PSP community;

## Responsible design and manufacture

Printers like the HP Designjet L65500 are subject to HP's Design for Environment Program and Supply Chain Code of Conduct and are manufactured in ISO14001 certified facilities.

"Using HP's Latex ink technology has brought us a lot of benefits. There is now a lot less paperwork to do, our operators can be sure that it is safe and can work in a more pleasant environment"

César Augusto  
VP Operations, Pluscolor  
Barcelona, Spain

For more information on HP's commitment to the environment please visit

[www.hp.com/hpinfo/globalcitizenship/environment/](http://www.hp.com/hpinfo/globalcitizenship/environment/)

1. Can include ventilation equipment, emissions scrubbers and burners
2. For example under regulations derived from Title V of the US Clean Air Act
3. e.g. in the Netherlands
4. "Emerging Strategies: Print for Pay", Infotrends, 2008 – based on survey 495 US PSPs
5. Source: US Environmental Protection Agency (EPA)
6. e.g. in the United Kingdom
7. Some substrates may have an inherent odor
8. Recycling opportunities currently available only in limited areas. Customers should consult local recycling resources.

## HP and environmental responsibility

1950s - Global Citizenship objective

1987 - First IT company to undertake hardware recycling

1991 - Planet Partners Program (PPP) for printer supplies recycling established

1992 - The Design for Environment Program began

2008 - Recycled PET from PPP re-used in HP ink cartridges

HP is ranked as one of the world's most sustainable corporations by The Global 100

HP was named one of the world's corporate "Green Giants" by Fortune Magazine, April 2007

In its fiscal year 2007, HP recycled more than 100 million kilos of hardware and print cartridges globally, an increase of approximately 50% over the previous year

