PLANET FRIENDLY GUIDE

FOR DIGITAL PRINTERS

WASTE

FESPA
profit for purpose

INDEX

Please click on the links below to go to the relevant information.

ABOUT THIS FESPA PLANET FRIENDLY SUMMARY GUIDE

This FESPA PLANET FRIENDLY SUMMARY GUIDE has been developed as part of a series.

The Guides aim to provide screen and digital printers with everything they need to know about printing sustainably.

The best available techniques, included in the Guides, give proven practical methods that can also generate financial savings. The Guides can assist printers who are planning to undertake any Environmental Management Certification.

The environment is a global topic that involves all the major industrialised nations. This has led to multi-international agreements such as the Kyoto and Montreal Protocols, the Durban Climate Change Conference, the Rio Earth and the Copenhagen Summits.

The European Union (EU) has been an early adopter of these agreements through various Directives and Regulations. The standards set by the EU in this field are often used as the benchmark by countries all over the world. However, there may be differences and the Guide user should always check with their local government bodies.

THE FESPA PLANET FRIENDLY SUMMARY GUIDES are based on these EU Directives and full details of references to this legislation can be found in the appropriate section of the Guide.

FESPA's Associations and their print company members can use and translate the Guides and the images used in them at no cost.

THE HISTORY OF THE GUIDE

The Guides are based on FESPA's Planet Friendly Guide which has been used as the print industry's reference on this subject since it was created by FESPA in January 2012. Under the expert guidance of Michel Caza and Paul Machin, the Planet Friendly Guide has been developed and regularly updated for use by screen and digital printers all over the world.

Michel Caza is a multiple award-winning leading light in the global screenprinting industry, and one of the 'founding fathers' of FESPA in 1962 and has been a Board Member since 1990.

Paul Machin is a chemist and lawyer Paul has spent 40 years dealing with European and international issues relating to the health, safety and environmental topics within the printing industry.

While every effort has been made to ensure that the information contained in the Guides is correct as at August 2014, readers are asked to note that FESPA makes no representation, expressed or implied.

WASTE

Every year, some **2.5 billion tonnes** of waste - including particularly hazardous waste - are produced in the EU Member States, and this figure is rising steadily. Stockpiling waste is not a viable solution and destroying it is unsatisfactory due to the resulting emissions and highly concentrated, polluting residues. The best solution is, as always, to prevent the production of such waste, reintroducing it into the product cycle by recycling its components where there are ecologically and economically viable methods of doing so.

The European Union's approach to waste management is based on three principles:

WASTE PREVENTION:

This is a key factor in any waste management strategy. If it is possible to reduce the amount of waste generated in the first place and reduce its hazardous nature by reducing the presence of dangerous substances in products, then disposing of it will automatically become simpler. Waste prevention is closely linked with improving manufacturing methods and influencing consumers to demand greener products and less packaging.

RECYCLING AND REUSE:

If the waste cannot be prevented, as many of the materials as possible should be recovered, preferably by reuse, if not by recycling. The European Commission has defined several specific ‚waste streams' for priority attention, the aim being to reduce their overall environmental impact. This includes packaging waste, end-of-life vehicles, batteries, electrical and electronic waste. **EU** Directives now require Member States to introduce legislation on waste collection as well as to reuse, recycle and dispose of these waste streams. Several EU countries are already managing to recycle over **50%** of packaging waste.

IMPROVING FINAL DISPOSAL AND MONITORING:

Where possible, waste that cannot be recycled or reused should be safely incinerated, with landfill only used as a last resort. Both landfill and incineration need close monitoring because of their potential for causing severe environmental damage. The **EU** recently approved a Directive setting strict guidelines for landfill management. It bans certain types of waste, such as used tyres, and sets targets for reducing quantities of biodegradable rubbish. Another recent Directive lays down tough limits on emission levels from incinerators.

Therefore it is essential for printers to undertake a review of the total waste generated over a reasonable period of time to determine what type and quantity of waste is being generated.

RESPONSIBILITY

The municipal authority has no statutory commitment to collect any waste generated by a commercial enterprise. No waste produced by a company can be assimilated into domestic waste. The communal services are free to set limits on what they will collect.

Any producer or holder of waste must carry out their treatment themselves or have treatment carried out by a broker, establishment or undertaking who have a permit from the competent authorities. The producer of the waste has the responsibility for ensuring the correct disposal of waste continues until the final stage of recycling and disposal.



ACTION PLAN:

- **Assign a senior member of the workforce to be responsible for all matters relating to the control of waste.**
- **Each type and quantity of waste must be categorised.**
  - **Segregation is paramount. Waste falls into two main categories; hazardous and non-hazardous. Putting polluted waste together with a non-hazardous waste makes the whole collection hazardous waste.**
  - **Segregate each type of waste into categories that are re-useable, recyclable, other recoverable as energy source or disposal.**
- **No hazardous waste can be thrown into the sewage system or dumped on land.**
- **Clearly label each waste type and store separately before collection.**
- **Select a company authorised to handle the various types of hazardous waste generated by your enterprise.**
  - **Review the procedures used by the selected company including visiting the site where the final disposal takes place especially with respect to hazardous waste. If the waste centre is classified following national and/or local rules, it must conform to the terms of use.**
  - **Retain documentary evidence concerning each collection.**
- **Monitor the weight and cost of each waste type.**
- **Review each BAT technique to determine which are suitable.**
  - **Select those BAT techniques that will produce the greatest saving or best environmental impact.**
- **Report the savings and/or environmental impact.**

HAZARDOUS WASTE

EU DIRECTIVES & REGULATIONS

Hazardous waste is described and controlled by the following European Directives that can be found on the following web site: **http://europa.eu/legislation_summaries/environment/waste_management/index_en.htm** and click on Hazardous Waste, Waste from Consumer Goods including batteries, waste electrical and electronic equipment and substances subject to restrictions for use in electrical and electronic equipment up to April 2014 and then the new EUR-Lex web-portal.

BEST AVAILABLE TECHNIQUES (BAT)

The following could be used as methods to reduce waste:

1. SOME PRODUCERS OFFER REVERSE LOGISTICS TO THEIR CUSTOMERS.

Some toners contain dangerous substances and must be treated as hazardous waste at the end of their life. This may not prevent it being collected for recycling, but there are legal requirements to ensure that the waste is transferred correctly and safely. The European Waste Catalogue codes are 08 03 17* waste printing toner containing dangerous substances and 08 03 18 waste printing toner other than those mentioned in 08 03 17.

Achievable environmental benefits: *There is reduced waste and the possibility of recycling.*

2. DISPOSABLE CLEANING WIPES

Cleaning can be done with disposable wipes. Once dirty, the disposable wipes are thrown away and treated as hazardous waste. This normally implies incineration. Disposable wipes are generally made of synthetic fibres. Per unit of weight, they can contain many times more cleaning agent and dirt than reusable wipes. After use, they are incinerated together with their contamination. Since disposable wipes are light, the incineration of the sludge from the cleaning of re-usable wipes offers little advantage over incineration of completely disposable wipes. Disposables have far better adsorption properties than re-usable wipes thus less weight and volume is needed. The amount of transportation involved is, consequently, also much smaller.

3. RE-USABLE CLEANING WIPES

Cleaning can be done with re-usable wipes. Once dirty, they are returned to the rental company where they are washed and put back into circulation. Reusable wipes are made of natural textile fibres. After use, they are washed with solvents and then dried. The contaminated solvent is distilled and the sludge is incinerated as hazardous waste. The washing, drying and distillation processes for re-usable wipes can give rise to solvent emissions. Re-usable wipes are less adsorbent than disposable wipes therefore a far greater weight and volume is needed. The amount of transportation involved is consequently larger for the same amount of cleaning. However, re-usable wipes generate less waste than disposable wipes.

Achieved environmental benefits: *There is no clear environmental difference between reusable and disposable wipes. An important factor in the choice for disposable wipes is the damage that may occur to very sensitive surfaces such as digital print heads by a re-usable wipe that is not completely free of contamination from previous uses.*

NON HAZARDOUS WASTE

Non-hazardous waste is described and controlled by the following European Directives that can be found on the following web site: **http://europa.eu/legislation_summaries/environment/waste_management/index_en.htm** and click on Waste from consumer goods then Packaging and packaging waste up to April 2014 and then the new EUR-Lex web-portal.

The levels of packaging and packaging waste recovery and re-cycling are:

MATERIAL	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)
Paper/card	69.5	69.5	69.5	69.5	69.5	69.5
Glass	81	81	81	81	81	81
Aluminium	40	43	46	49	52	55
Steel	71	72	73	74	75	76
Plastic	32	37	42	47	52	57
Wood	22	22	22	22	22	22
Total recovery	74	75	76	77	78	79
Of which recycling	68.1	69	69.9	70.8	71.8	72.7

Each country within the EU is permitted individual schemes to meet the targets shown above. Any metal or plastic containers that were used to supply inks, some toner cartridges and bottles, cleaners etc. must be treated as hazardous waste and must not be mixed with other packaging materials.

BEST AVAILABLE TECHNIQUES

The following could be used as methods to reduce waste:

SEGREGATION

All non-hazardous materials should be segregated into separate clearly identified containers. Mixed waste is extremely difficult to recycle or valorise; incineration can also prove difficult. Whilst it may not be possible to re-use waste in your business, it may be useful to others. Make use of a waste exchange scheme to advertise your waste and make it available for use by others, either for sale or free collection. The exchange schemes cater for a wide range of materials and include difficult wastes that may not have recognised markets, brokers or dealers.

Achievable environmental benefits: *Increased level of recycling can be achieved leading to lower usage of virgin raw materials.*

SORTING PAPER WASTE

During the finishing and converting processes unprinted off cuts are produced. It is easier to recycle such paper and many waste collection/treatment companies are prepared to pay for such material.

Achievable environmental benefits: *Higher levels of recycling are achieved and financial savings can be obtained.*

RETURNABLE PACKAGING

Where regular and large volumes of paper, board or plastic are purchased from one or more suppliers negotiate the use of returnable packaging. Segregate this packaging to enable return to the supplier using their transport.

Achievable environmental benefits: *High levels of re-use are achieved and financial savings can be obtained.*

INSTALL COMPACTOR

Packaging waste is usually very bulky. Waste collection costs are frequently based on the volume collected; compacting reduces the apparent volume by displacing air within the waste.

Achievable environmental benefits: *Reduced levels of transport that results in lower carbon emissions and financial savings.*

OUTGOING PACKAGING

For key clients with frequent orders, some suppliers offer returnable packaging or take back used packaging (only if it is your own). Avoiding using polystyrene chips. Use cardboard inserts or balled/shredded paper instead of plastic protection as this is readily recycled. Use a paper based wrapping tape rather than a plastic tape.

Achievable environmental benefits: *Reduced level of usage of raw materials leading to cost savings.*

RE-UTILISE PALLETS

Good quality second-hand pallets can be used for shipping to customers or they can be sold to a company who will use them or sell them on to others.

Achievable environmental benefits: *Reduced level of usage of raw materials leading to cost savings.*

COMPACT DISCS

These can be collected and placed into batches before being granulated. The granulated plastic is then washed in caustic solution to remove aluminium foil and inks. The clean plastic is then sold to injection moulding companies etc for re-use.

Achievable environmental benefits: *Reduced level of usage of raw materials leading to cost savings.*

FESPA LTD
Bancroft Place
10 Bancroft Road
Reigate
Surrey
RH2 7RP

t +44 1737 240788
f +44 1737 233734
e info@fespa.com

ABOUT FESPA

FESPA is a global federation of 37 national associations for the screen printing, digital printing and textile printing community. Founded in 1962, FESPA organises the leading exhibitions and conferences for this community and reinvests profits from these activities into the global print community.

WWW.FESPA.COM

FESPA
profit for purpose