

### REDUCE

A critical first step in a waste management strategy is to promote the initial reduction of waste generation in a commodity's life cycle (also known as “source reduction” or P2 – “pollution prevention”). This could be accomplished through substitution of more efficient raw materials, elimination of non-essential components, or re-engineering and redesigning a product or process altogether. At INX, improvements in efficiency and reduction of waste have historically been a focus of our company through programs such as Lean Manufacturing and Total Productive Maintenance (TPM). Reduction can provide the biggest impact to decreasing waste and should be among the first steps in your companies waste management strategy as well.

- ✓ Reduce waste through cooperative strategies that determine the most efficient packaging requiring the fewest resources.
- ✓ Reduce waste by improving process efficiency through early adoption of such programs as Lean Manufacturing and TPM.
- ✓ Reduce waste through consolidation and standardization of inventory.
- ✓ Reduce waste by ordering and processing in bulk wherever possible.

#### SOME STEPS TO REDUCE

The easiest solution to reduction starts at the beginning – evaluate the quantity of ink you need. Consider these questions before you place your order:

- ✓ Do you have an ink management software program like INX Manager to calculate quantity?
- ✓ Do you have historic consumption data?
- ✓ Have your specifications changed?
- ✓ Has there been a change in your process?

Consider an INX waste-reducing system that can directly impact your bottom line: Use our “stay-open” sheetfed inks which can be left in the fountain overnight to reduce waste and wash-ups.

### REUSE

Reuse, after reduce, is a preferred choice to attain waste minimization or waste diversion from landfill or other end of lifecycle fate. Consider the feasibility of reuse for items; for example using refillable totes or re-usable (within your facility) drums instead of many smaller, non-refillable containers.

- ♻️ Reuse of packaging material and pallets for transportation of materials.
- ♻️ Reuse of solvents with solvent distillation systems thereby reducing the volume of waste.
- ♻️ Reuse of filters where possible in certain filtration systems whereby the contaminants are disposed and filters used multiple times until spent.
- ♻️ Reuse existing inventories through better management of inventory rather than opting for disposal.
- ♻️ Reuse totes or drums with dispenser systems, a consideration for high volume customers. Work with INX to install a dispenser system to realize cost savings through:
  - ✓ JIT delivery of spot colors
  - ✓ Improved inventory control
  - ✓ Improved quality
  - ✓ Improved productivity
  - ✓ Increase dispensing speed and accuracy

### Why dispenser systems?

A dispenser system works to help minimize waste.

### Will a dispenser system work for you?

- > Do you use paste or liquid inks?
- > Do you order spot colors or blends?
- > Do you use large volumes of ink? If so, you may want to consider a dispenser.

### Yes?

A dispenser system may work for your facility and provides:

### Environmental Advantages

- > Reduce environmental disposal costs and conserve resources
- > 99.9% repeatability reduces generated waste from re-matching
- > Use excess inks to make new inks in reusable totes
- > Reduced fuel & energy costs through fewer deliveries

### Other Advantages

- > Reduce labor costs through automation
- > Quality and Efficiency improvements - Reduced press downtime by delivering consistent quality.
- > Reduce excess inventory wasted by “just in case” ink inventories.

## THE INX SOLUTION: INXMANAGER™

INX developed software to assist internally with color management and overall inventory and waste control.

INXManager® Software enables users to reuse and rework excess or obsolete colors into one batch, improving ink mileage, thus saving ink costs as well as waste disposal efforts and expenses.



## RECYCLE

The last alternative in a waste management strategy is recycling. Recycling is simply the reprocessing of old materials into new products or resources. Recycling closes the waste management loop and is always a preferred option over disposal. INX customers have the opportunity to recycle as nearly all INX containers are made from recyclable metal or plastic (P1 or P2) materials. Customers have several methods to consider based upon their own in-house recycling and waste management practices including:

### COMMERCIAL RECYCLING PROGRAMS

Cleaned out and empty ink containers may be disposed in most commercial recycling programs that many facilities have, which are similar to curbside programs used by consumers at home. The size of our containers, even our five gallon container, is within the range accepted in these types of programs. National recycling and waste hauling firms will accept empty ink containers depending upon their cleanliness. These programs typically have stringent requirements associated with the definition of “empty”, some may just accept scraped, but others will require triple rinsing criteria. In some cases it may be required to remove any metal parts such as handles on buckets. Fortunately, many buckets from INX now come with plastic handles. Talk to your existing waste hauler or recycler to determine whether they will accept your empty ink containers and if so, how clean you must get them before they can be recycled. Once understood, you will need to talk with all of your employees to help them understand how to prepare empty containers that will meet these program criterions to improve your recycling options.

### INDUSTRIAL RECYCLING OR SALVAGE

Most manufacturing facilities dispose of scrap or salvage at some point of a product's life cycle. Your industrial recycling or salvage contacts may offer other recycling options. Many scrap dealers handle both metal and plastic materials. There are also industrial recycling services which deal with specific types of material such as plastic. Any type of recycling will require empty or scraped containers, but typically industrial recycling or salvage operations may have less stringent criteria than commercial recyclers. For example, industrial recyclers may take larger containers used in the industry; and salvage operations will take material in many non-standard shapes.

Again, you will need to work with your local industrial recyclers or salvage firms to understand their criteria for accepting the recyclable material. A concern of most recyclers is the residual ink left in the containers. Many recyclers will accept crushed containers more readily; as this is a better indication the containers are empty.



## WASTE TO ENERGY (WtE)

This process refers to waste treatment that creates energy from a combustible waste source. Incineration, the combustion of organic material such as plastic waste, with energy recovery is the most common WtE implementation and is an option to consider once traditional recycling avenues have been exhausted. Typically, WtE operations may have less stringent criteria than both commercial and industrial recyclers. Availability of WtE facilities is the primary decision factor in this case. Visit [www.wte.org](http://www.wte.org) for a list of locations in your area.



## FUEL BLENDING

A subset of WtE technologies is fuel blending. Fuel blend operators accept organic wastes for the purposes of creating a resource that is utilized by the cement industry. In lieu of firing the kiln with fossil fuels, the cement manufacturer may choose to substitute a fuel that achieves the same physical/chemical parameters – the fuel blend. Not only does fuel blending achieve the goal of recycling by taking a waste material and substituting it for a commodity that might otherwise have to be utilized but in the process little to no residual material remains to be managed as the fuel blend material is either consumed in combustion or incorporated into the cement clinker.

Your recycling options are defined, based on your responses to the questions below. Determining which recycling option will work for your facility is a decision that needs to be made with your waste contractor, environmental services provider and potential recycling facility. In many cases, your potential vendor will review samples of materials to be recycled to determine suitability.

## REVIEW YOUR OPTIONS

|                               | Ink Residue                         | Waste Volume | Waste Stream | Container Shape/Size             |
|-------------------------------|-------------------------------------|--------------|--------------|----------------------------------|
| Commercial                    | Most Stringent - Scraped and Rinsed | Smallest     | Limited      | Crushed or flattened recommended |
| Industrial/Salvage            | Less Stringent - Scraped            | ↓            | ↓            |                                  |
| Waste-to-Energy Fuel Blending | Least Stringent                     | Largest      | Expanded     | More non-standard shapes/sizes   |

## WHAT ARE YOUR RECYCLING OPTIONS?

### Determine your recycling options:

- ♻️ Do you currently have a office (commercial) recycling program? Who provides the service?
- ♻️ Do you have an industrial recycling program for scrap or salvage? Who provides the service?
- ♻️ How many recyclables are generated (pails/week)? Consider both metal and plastic recyclables separately.
- ♻️ Are the empty ink containers scraped clean, wiped clean or rinsed?
- ♻️ Can you crush the empty ink containers? Can you shred plastic containers?
- ♻️ Where are local recycling facilities? Location is key to evaluating cost effective recycling practices.
- ♻️ Recyclables are sold as commodities and are subject to market changes. Your waste hauler or salvage contact will have current information on availability of recycling options.



### Additional information on recycling options is available at:

Institute of Scrap Recycling  
[www.isri.org](http://www.isri.org)

Society of Plastics Industry  
[www.plasticsindustry.org](http://www.plasticsindustry.org)

Integrated Waste Services Association (WtE)  
[www.wte.org](http://www.wte.org)

150 N. Martingale Road, Suite 700 · Schaumburg, IL 60173 · phone: 800-233-INKS · fax: 847-969-9758  
e-mail: [greenteam@inxintl.com](mailto:greenteam@inxintl.com) · website: [www.inxinternational.com](http://www.inxinternational.com)