

The background of the page is a white canvas covered with abstract, organic green ink splatters and lines. The splatters vary in size and intensity, from light green dots to dark green blotches. The lines are thin and fluid, some forming loops and others crossing each other in a chaotic, web-like pattern. The overall effect is reminiscent of a microscopic view of a biological structure or a dynamic, organic network.

# The Art of Being Green

*The INX Pathway to Sustainability*

**INX**...  
Visual Communication Technology

## **Global Vision, Global Capabilities, Local Solutions.**

“Long before ‘green’ and ‘sustainable’ became popular terms, we were putting those words into action. In fact to us, green means more than low or No-VOC inks, it means additional initiatives and activities that also include important activities that reduce waste, recycle water, and conserve energy.”

### **Rick Clendenning**

*President and CEO of  
INX International Ink Co.*



# INX...

**At INX, our goal is to make the best printing products go hand-in-hand with the best environmentally sustainable practices.**

*We have a singular goal at INX: to become a greener company with advanced sustainability practices, while at the same time providing our customers with inks and technology for world-class printing standards — the kind that never compromise color quality, shelf impact and brand identity. As an environmentally conscious corporation whose track record spans more than a century, sustainable product solutions and environmental stewardship have always been an integral part of our core values.*

#### **Our Commitment to Sustainability**

INX International is committed to formulating state-of-the-art, earth-friendly products that deliver unsurpassed performance and quality while minimizing the negative impact to the environment. Providing sustainable product solutions and environmental stewardship has always been part of our core values and strategic direction.

#### **Company Mission**

- INX is dedicated to achieving industry leadership through excellence in product quality and customer service.
- Our mission statement is to meet our customers' needs and goals with technological developments and continuous improvement in manufacturing processes.
- We will strive to produce only products that are friendly to the environment.
- We are committed to maintain consistent growth and to earn a reasonable return on our investment.

#### **Key company facts about INX**

- INX International is a leading global manufacturer of visual communications technology.
- We are an industry leader offering a full line of ink & coating solution technologies for packaging, commercial, and digital print applications.
- Our company operates 25 facilities in the U.S. and more than 50 on four continents outside of North America as part of parent company SAKATA INX.
- Parent company SAKATA INX established its first Environmental Department in 1973.
- All plants are compliant to the ISO 9001 Standard and main manufacturing plants are working towards being ISO 14001 Compliance Certified and have implemented Total Productive Maintenance (TPM) to improve production efficiencies.
- State-of-the-art research and development centers in Tokyo, Japan, Osaka, Japan and West Chicago, IL employ over 250 chemists and researchers.
- INX is dedicated to our customers, employees, environment, and society.



# The key to a greener INX starts with six key sustainability initiatives.

*True environmental stewardship doesn't end by merely meeting regulatory standards. It goes far beyond them. All aspects of the way we do business must be scrutinized every day, in every way, to be sure that we continually offer our customers more eco-friendly products while we reduce waste, energy consumption and emissions. The following are the six key initiatives that INX has established as mandatory goals.*

## **1 Energy & utility conservation.**

- Reduce energy consumption by improving process energy efficiency.
- Reduce carbon dioxide equivalent emissions per unit of production.
- Reduce carbon dioxide equivalent emissions through more efficient product transportation.
- Provide Utility Management Services to track and monitor utility usage at all INX plants.
- Study plant utility usage (electric, natural gas, and water) to set target reductions per pound of ink produced as part of ISO 14001.
- Maximize equipment utilization through process flow analysis and value stream mapping to identify all areas of waste and non-value added activities. This reduces wasted energy and materials significantly.

## **2 Waste reduction & landfill elimination.**

- Eliminate all land-filling of manufacturing waste.
- Reduce manufacturing waste per unit of output.
- Increase waste recycling and waste avoidance.
- Implement exclusive INXManager™ software to assist with color management and overall inventory and waste control.
- Reduce waste throughout the product life cycle via recovery and recycling of inks and coatings.
- Activate Continuous Improvement teams to achieve conservation results.

## **3 Water conservation.**

- Reduce total fresh water use.
- Maintain treated wastewater quality consistent with best-demonstrated technology.
- Carefully monitor irrigation systems to assure proper control and settings, especially during peak summer months.
- Allow water treatment and purification systems to capture waste water and perform on-site purification practices to reduce the waste stream and overall consumption of water.

## **4 Product design for the environment.**

- Develop environmentally-preferred products using sound environmental design principles
- Utilize product packaging that adheres to the following principles of sustainable packaging: efficient, reduce, recyclable, recycled, sustainable.
- SAKATA INX product design methodology considers the following impacts to the environment; resource conservation, prevention of global warming, protection of the ecosystem, conservation of air quality, conservation of water quality, reduction and recycling of waste, avoidance or reduced use of hazardous materials. These initiatives are considered at each step of the following product design process: material purchasing, manufacturing, shipping & delivery, printing & consumption, disposal or recycling of printed material.
- Some examples of the eco-friendly products we produce include:
  - Products formulated with raw materials that can be naturally replenished such as water, linseed, soybean, and other vegetable oils, wood based resins, and cellulose resins.
  - Conventional offset & energy curable inks that qualify for the American Soy Seal with at least 20% and 7% soy oil respectively.
  - Naturally green energy-curable UV inks formulated VOC-free to reduce overall energy consumption while reducing VOC emissions and HAPS (Hazardous Air Pollutants).
  - Water based flexographic inks for flexible packaging, with low-VOC and no HAPS or SARA 313-reportable materials.
  - Low Temp heatset inks enabling printers to reduce energy usage while enhancing their environmental performance.

## **5 Materials sourcing (procurement) & supply chain management.**

- Utilize environmentally friendly raw materials and develop new products that have the least impact on the environment.
- Choose materials and processes that maximize the use of renewable and recyclable materials.
- Use only raw materials that comply with federal and international standards concerning lead and other heavy, high toxicity metals. (Toxics in Packaging Clearinghouse (TPCH) Model Legislation [formerly known as CONEG - "Coalition of Northeastern Governors" Legislation] specifically prohibits use of lead, cadmium, hexavalent chromium and mercury).

## **Demonstrate social responsibility.**

- INX believes that fulfilling its corporate social responsibility (CSR) is essential to the sustained growth of the Company. The Company's policy is to carry out its CSR activities with an awareness of the triple bottom lines of its social, environmental and economic actions, pursuing a good balance and interaction among these three aspects.
- It is our policy to behave ethically and contribute to economic development while improving the quality of life of our employees and their families as well as the communities where we work and society at large.
- Manage our business processes to produce an overall positive impact on society.



## **Our sights are set on sustainable results.**

INX International has long been committed to formulating state-of-the-art, environmentally friendly products that deliver unsurpassed performance and quality with minimum negative impact on the environment.

### **It starts with research and development.**

Every day our R&D staff continues to look for new opportunities to implement more environmentally friendly raw materials and develop new products that have less impact on the environment. We are always looking for new materials and processes that maximize the use of renewable and recyclable materials.

### **It means reducing VOCs.**

To reduce emissions of VOCs (volatile organic components) we have adopted the use of more environmentally friendly materials. These include the replacement of petroleum oil with naturally replenishable vegetable oils such as soy, the replacement of solvent materials with water-based materials and the use of UV curable materials formulated without VOC solvents.

### **It includes new software.**

To help our customers reduce print waste, we offer proprietary INXManager® Software that allows users to recycle existing colors into one batch. Where waste is neither recoverable, nor recyclable, we aim to ensure that it is environmentally safe for probable end-of-life scenarios.

### **It ultimately provides you with a team.**

To work closely with you, our communities and within our organization, INX has established an Environment, Health, & Safety Team and a GREEN TEAM. They operate to ensure that we are meeting or exceeding standards set by regulatory and industry organizations around the world. As times change, we will continue to monitor and adapt our environmental policies to meet the needs of our industry, customers, employees and community neighbors.

# Frequently Asked Questions

**Q How has the ink industry contributed to the environmentally responsible disposal of the final printed products?**

**A** *The ink industry has reformulated all inks to exclude known toxic metals: lead, cadmium, mercury, and hexavalent chromium.*

**Q How does ink affect the biodegradability of printed materials?**

**A** *While there is some evidence that vegetable oils themselves are more biodegradable than petroleum oils, no difference in biodegradability of a printed substrate would be anticipated. Biodegradability of printed matter is a function of the biodegradability of the substrate, not the dry ink film.*

**Q What happens to the printing ink during the recycling process?**

**A** *The de-inking plant utilizes office wastepaper and other paper wastestreams as feed stock to recycle paper by removing the ink and other contaminants to produce a clean, bright, market pulp which will be sold to producers of printing and writing grades of paper. Rejects from the process are dewatered and collected for landfill disposal.*

**Q What happens to the ink once its removed from the paper?**

**A** *Ink, and materials like glue residue and adhesives, are trapped in the froth produced during the flotation de-inking process. This material is collected, and much of its water is removed and reused at the paper mill. The remaining material, which is still 30%-50% water, also contains very small fibers which have washed out of the pulp during the de-inking process. This material can be burned to make energy, composted, or land filled.*

**Q Are inks containing Soy and other Vegetable products more readily removed from the printed substrates?**

**A** *A review of typical formulations suggests that there would be little or no difference in de-inkable properties between soya or other vegetable oil inks and petroleum based inks.*

**Q Can I Recycle Coated Corrugated?**

**A** *If it has been treated with plastic extrusions or laminates, wax coatings, etc., it cannot be recycled unless it is marked with a recyclable certification symbol.*

**Q What is the contribution of the printing ink to the overall carbon footprint of the printing process?**

**A** *Ink contributes 0.5% of the overall carbon footprint of the printing process where other components are paper, 76% of the total carbon footprint; machine usage, 12.5%; transport, 6%; and plates 5%.*

**Q Do printing inks use renewable resources?**

**A** *Printing inks use several renewable resources. Offset inks use materials such as soy oil, Linseed oil, Tung oil, and Chinawood oil. Rosin resins used in the ink vehicle are derived from renewable resources. Liquid (flexo and Gravure) inks use renewable resources such as: Soya Lecithin, Water, Soy Protein polymers, Cellulose Nitrate (Nitrated wood), Shellac, Cellulose Based Polymers, Plant derived alcohols etc.*

**Q Does INX have a take-back program for containers?**

**A** *INX does take back and reuse our largest size containers-totes, which hold between 2000-3000 lbs. of ink. All INX containers can be recycled after use by our customers.*

For questions regarding INX sustainability initiatives, contact the INX Green Team.

**800-233-INKS**

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