



How to Build Sustainability into Your Strategy - Part 1

By [Pat McGrew](#)

Sustainability is a hot topic in every region. It reaches into every aspect of our personal and business lives because there are so many vectors to consider. Is your fashion choice using sustainable manufacturing technologies? Is your food grown or raised using sustainable techniques and delivered to you in a sustainable workflow and supply chain? Is your choice of energy for your home sustainable? In the broadest use of the term, it sits at the intersection of economic, environmental, and social concerns. In the print industry, sustainability is often equated with the creation, use, and recycling of substrates, but there are many other elements to consider.

In the production printing industry, sustainability extends past the consumables to the efficiency of processes that conserve energy and optimize the use of labor and equipment. There are many evolving talk tracks covering substrates, marking technologies, and even the timing of when we print. Beyond the discussions related to printing versus e-delivery for business and regulatory communication, there is a conversation that involves the cavalcade of printing we do for packaging, labels, marketing, advertising, and education that is less likely to be replaced by pixels on a screen. As friends in the industry are fond of saying, it's unlikely that oatmeal will be delivered via a screen interface anytime soon.

It is a big topic with many niches, making integrating sustainability into your business and production strategy a complex proposition. Where do you start? Where will you make your sustainability statement to your clients, vendors, and staff? What actions will you take? Consider your business and production goals, and then zero in on where you can merge sustainability into your processes.

Begin with the business. Profit is the goal, but there is still room for a sustainability strategy. You may be able to invest in alternative energy sources to run your plant. You may make recycling or printing on sustainable materials a priority. Then there are the decisions you make about printing and marking devices and their consumables that are part of the strategy. The finishing options you offer are another vector. The good news is that if you have adopted inkjet technology as one of your marking strategies, or your only marking strategy, you have a good start.

Inkjet serves a variety of print segments, but for this discussion, the focus is on solutions that fulfill print requirements as part of a manufacturing process, like adding markings to packaging or adding variable content to offset shells. For these solutions, part of the sustainability story is in the timing of print. Printing, especially customization, too early in the process can leave a trail of unusable output as requirements change. Labels printed ahead of manufacturing are a risk since specifications, ingredients, instructions, and even regulations could change late in the manufacturing process, leaving stacks of labels to be discarded. Primary and secondary packaging are subject to the same challenges. A last-minute change can render pallets of corrugated or folding carton material useless or force the addition of labels over incorrect information. Neither is an ideal situation.

Building Inkjet-enabled Late Stage Manufacturing

A value proposition for inkjet is that it enables solutions for Inkjet printing during the later stages of manufacturing customization. It provides options for sustainable practices in mass customization and single-item customization, protecting investments. It begins with an assessment of the current state and goals. How are the needs being met today, and how much waste do current methods produce? Can that waste be reduced by adding inkjet modules to devices or processes at the end of manufacturing stages instead of printing highly-specific information on packaging?

And, could adding print modules towards the end of manufacturing result in opportunities to tune processes toward more sustainable practices? At first glance, it appears they can. Moving to methods that do the final mass customization or single-item customization at the end of the manufacturing process can reduce waste, but they may require changes to the workflow to enable the opportunity.

Steve Atherton, Senior Manager of Product Management and Marketing for Fujifilm Integrated Inkjet Solutions, puts it this way, "We know that there are tons of boxes, packages, and marketing collateral that are printed and sent for recycling without ever being used. Something changes after the original print cycle that causes them to expire before use. Using print modules in concert with manufacturing processes, we can reduce a large amount of that waste by changing the way it's manufactured. The idea is to identify the information that can expire or change and print it at the last possible moment."

Customizing toward the end of manufacturing is a great practice to reduce waste, but it takes process change to make it happen. The first step is to identify the variable information. It may be language-specific or location-specific instructions. It may be part numbers, lot numbers, or packaging routing information. There may be barcodes or QR codes that help to speed

packages to their routes and inform inventory systems. Each information element is a candidate to drive late-stage marking using a workflow that is aware of the product in process so that the data and information needed for the customization can be routed to the print head for delivery to the substrate.

The next installment in this series reviews applications for late-stage marking that enhance sustainability strategies.

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