

A photograph of a bedroom with a bed covered in white linens, a patterned headboard, and two glowing spherical pendant lights hanging from the ceiling.

Going Forth and Coming Home: Hospitality and Home Fabrics Tackle Sustainability

By Debbie McKeegan

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The home fabrics and hospitality industries and their use of textiles are significantly different compared to the fashion industry, where consumers' endless pursuit of new on-trend products has over the last few years become the object of what seems to be an endless stream of negative headlines and poor press.

Home fabrics suppliers have historically created decorative products that are built for purpose, drape, and comfort—and for hospitality interiors, those products are also built to withstand high temperature laundering and extensive wear and tear. While hospitality is also increasingly a trend-driven sector, the textiles are not designed to be changed by the season.



However, behind the scenes, the suppliers serving all these industries have the same issue: eco-conscious consumers demand sustainably sourced textiles. Across the world, designers and manufacturers are shifting towards circular design. The initial choices made by the designer are critical. The designer's responsibility is to define both the product and its components—and the sustainable choices that they make will change the future of our planet.

Going Forth: Hospitality

The hospitality industry is no stranger to sustainability, and the eco-conscious hotel is nothing new. It's also an industry that is very much accustomed to rental, and where much of the bed and bath linens and other textile items provided are leased. This inbuilt flexibility has allowed them to flex to the needs of a new generation of consumers and adopt sustainable alternatives.

Circular design is a well-established principle for the hospitality industry. Even the simplest hotel chain now adopts a sustainable culture from the welcome mat and beyond. Hotels strive to saving energy and resources from the initial design of the functional building to the green culture that they offer their visiting customers.

Products used within the hospitality industry are now increasingly recycled and upcycled by various initiatives across all departments, including durable design, repair, and recirculation from the luxury market down to other hotels, and by donations at end-of-life to homeless shelters and charitable organizations. As an example, bed linen has been recycled to produce new fiber to make towels.

A recent study of tourism and its impact by the EU's Urban Waste project, carried out in Copenhagen, revealed that the textiles in circulation in its hotels accounted for 3000 tons of CO₂ emissions alone. In encouraging circularity, companies such as 3SIXTY, a large supplier of textiles to the hospitality industry, are making a positive impact on the industry's carbon footprint manufacturing towels and linens using RPET (recycled plastic bottles) and up-cycled ocean waste.

The Quest for Sustainability

Behind the scenes, the textile industry is making huge strides towards the continued improvement of sustainable supply. As an industry that consumes billions of tons of fiber in spinning and weaving, not to mention the billions of meters of textiles that are both dyed and printed each year, incredible innovations are being developed and adopted worldwide.

Currently the availability (by volume) and diversity of sustainable fabrics in the supply chain is an issue, and for many practitioners the ready availability of common substitutes using RPET (recycled plastic) and recycled cellulose fibers restricts best practice. We cannot currently switch to a sustainable textile supply chain because, simply put, the meterage we require as a global community does not exist.

Water

Essential water diverted for textile processing continues to be a systemic problem for the traditional textile industry. Waterless technologies and wastewater recycling are critical developments to save precious resources. Great strides have been made toward these goals and continue to be made.

Recently Arvind, a global supplier to the textile industry, opened a new innovation center in India to promote the adoption of proven techniques and technology that reduce water use by the textile industry. In addition, the company invested in a new water treatment facility that will eliminate the use of fresh water at Arvind's mill in Ahmedabad, India. The facility will save 3 billion liters of fresh water by the end of 2020 and preserve the local community's vital freshwater resources.

Air & Energy

Historically, heat and toxic gases from textile manufacturing were released into the environment. Air and water treatment and heat recovery are essential components to modern textile manufacturing.

For example, the exhaust air treatment on the new stenters of Getzner AG is carried out by a multi-stage Brückner Eco-Heat and Eco-Air system. In the first stage of the Eco-Heat heat-recovery system, heated fresh air is generated for the drying process, which noticeably reduces energy consumption. In the second stage of the heat-recovery system, water is heated for the company's internal heating system and thus, depending on the heating requirement, up to 85% of the invested heat energy is recovered. The pollutants from the exhaust air are condensed and separated in the subsequent Eco-Air exhaust air scrubber for decontamination.

Recycling

Over recent years, huge strides have been made in recycling technologies. Innovative recycling technologies have now been developed that are capable of repurposing previously un-recyclable polyesters destined for the landfill.

Using the process of methanolysis, Eastman's advanced circular recycling technology breaks down polyester-based products into their polymer building blocks. These building blocks can then be reintroduced to the production of new polyester-based polymers, delivering a true circular solution. Eastman was one of the pioneers in developing methanolysis technology at a commercial scale and has more than three decades of expertise in this innovative recycling process.

Advanced circular recycling technology can be an especially impactful solution, as low-quality poly-

ester waste that would typically be diverted to landfills can instead be recycled into high-quality polyesters suitable for use in a variety of end markets.

"We recognize that plastic waste is a complex problem that needs advanced solutions. As we have engaged potential partners, it is clear there is high interest across the entire value chain," says Mark Costa, Eastman's Board Chair and Chief Executive Officer.



PHOTO CREDIT: BETH TRAVERS

“Our long history of technical expertise in chemical processes, including methanolysis, and our leading position in co-polyester chemistry, enables us to provide this innovative solution to address the growing challenges of plastic waste in our environment.”

Eastman’s efforts to find new end-of-life solutions to advance the circular economy align with the company’s innovation-driven growth strategy and commitment to create value through sustainability. Eastman is currently executing an engineering feasibility study on the design and construction of a commercial scale methanolysis facility to meet the demands of their customers and has engaged in initial discussions with potential partners across the value chain on the development of such a facility. The goal is to be operating a full-scale, advanced circular recycling facility within 24 to 36 months.

Biodegrading

Another company, Duvaltex, has been one of the leading manufacturers of sustainable textiles for over 20 years, and has recently launched its new Clean Impact

Textiles range. This not only represents the first recycled biodegradable polyester textile for commercial interiors, but also a major step forward in establishing an advanced bi-circular economy model for textiles, whereby polyester fabric, at the end of its useful life, can flow through either a biological or technical cycle.

This innovative technology allows Duvaltex to create high performance fabrics that are long-wearing in commercial interiors, but that can biodegrade in landfills and wastewater conditions at a rate similar to that of natural fibers (tested under ASTM D5511). This is achieved through the addition of a bio-catalyst in the yarn extrusion process that enables anaerobic digestion in landfill and wastewater treatment conditions.

In addition, since these polyester fabrics were designed and manufactured for recyclability, they can also flow through a technical cycle, to be recycled and used as raw materials for future generations of polyester fabrics.



This innovation for commercial fabrics addresses the daunting problem of how to deal with polyester fabric waste at the end of its useful life, offering both a biological and technical solution.

“Based on the alarming statistics regarding the amount of textile waste that ends up in landfills, these innovative fabrics represent eco-efficiency by design at its best, and a crucial step forward in reducing the negative impact of a linear economy,” says Alain Duval, CEO of Duvaltex.

Designed and manufactured to conform to the strict performance requirements of the contract textiles market, Duvaltex’s Clean Impact Textiles meet or exceed the Association for Contract Textiles (ACT) performance guidelines for heavy duty upholstery.

Rebuilding the Industry

The textile industry is addressing sustainability issues from agriculture, through to spinning, weaving, dyeing, processing, manufacturing, and onto

retail by adopting new systems and technologies—but it’s an industry of huge proportions, and Rome wasn’t rebuilt overnight.

From design through to production, as professional textile practitioners, we are one community, and a community with immense power to do good. But ultimately, as history has repeatably proven, the consumer decides our fate. The consumer has decided: sustainable production is their preferred choice and the textile industry is listening!



With 25+ years of professional multi-disciplinary experience in design and textile manufacturing, Debbie McKeegan serves as an expert authority on digital disruption. Contact info@texintel.com; www.texintel.com.