All textile manufacturers must be aware of the impact their operations and products make on the environment. If they don’t adopt a ‘clean’ and ‘green’ approach voluntarily, their customers will demand it.

As the world’s leading textile-technology showcase, ITMA has to play a positive role, not only in helping manufacturers identify the environmental issues to which they, their customers and suppliers must respond, but also in setting out the technical solutions available to them.

That is why CEMATEX, the owner of ITMA, is launching this ‘ITMA Sustainability Bulletin’ – which will be published four times a year and, we hope, will deliver topical insights into the environmental questions and answers that have become the daily concern of decision-makers up and down the textile supply chain.

Each edition will also contain pointers to the newest technology that can help manufacturers become greener in areas such as materials, energy, water and emissions.

In this first edition we examine the impact of the recent campaign by Greenpeace to embarrass some of the world’s biggest international textile brands into agreeing to ‘Detox’ their supply chains. This increasingly successful campaign has focused on pollution from finishing operations, and also on the presence of PFCs in finished products. Sixteen of the biggest brands and retailers have committed to clean up their supply chains by 2020 – but not all the solutions are readily available.

Another area of increasing importance is ‘end of life’ policy. The pressure to reduce landfill volumes, combined with the rising price of raw materials, is encouraging the textile community to find ways to reuse or recycle worn clothing. As this commercial opportunity expands, technology is removing some of the barriers and recycled materials are feeding back into the supply chain as new value-added products.

Charles Beauduin, President, CEMATEX
www.cematex.com
A management plan to clean-up chemical pollution in China is set to ‘blacklist’ 58 substances by 2015. The Five Year Plan, which has been welcomed by environmental campaigners Greenpeace, highlights the risks that toxic chemicals have posed to the nation’s environment and health.

The Ministry of Environmental Protection’s (MEP) initiative states that the Government will come up with phase-out and restriction lists by 2015, indicating that China’s chemical-management policy has shifted from the moderation of pollution to the complete elimination of hazardous emissions. Seven industries are listed for priority attention, including the textile industry, which has been the focus of Greenpeace’s global Detox campaign.

The MEP has divided the chemicals into three classes, declaring them priority substances for environmental-risk prevention and control during the period of the 12th Five Year Plan. Some substances are listed in more than one class.

The first group contains 25 chemicals identified as having ‘accumulative risks’ and includes the Nylon 6 ingredient Cyclohexane, as well as Oxirane (used in detergents), the solvent Trichloroethylene and the plasticiser Diethyl phthalate. For these, says the policy, environmental risks should be controlled by pollution-prevention at source, exposure reduction, the strengthening of registration and a reporting system for release and transfer.

The second group contains 15 chemicals said to be associated with accident risk, for which the measures proposed are stronger risk management, better early-warning and contingency mechanisms and intensified rapid response. Listed substances include a range of acids, anilines and esters, as well as Ammonia, Chlorine and Hydrogen sulphide.

With a final list of 30 ‘characteristic chemicals’ that are either air or water pollutants, the document says these should be controlled and eventually reduced by means of intensified environmental-impact assessments and standards implementation, followed by better monitoring and supervision. Included in the list are ‘chemical pesticides’, Formaldehyde, Acrylonitrile and the PVC precursor Vinyl chloride.

**Textile Exchange launches Organic Content Standard**

The Textile Exchange (TE) has partnered with the Outdoor Industry Association (OIA), through the Materials Traceability Working Group, to release the Organic Content Standard (OCS).

The standard is intended to provide companies with a tool to follow organic raw materials as they move through the various production steps to a final product. Under its provisions, according to TE, independent third-parties will check each facility and shipment to make sure that goods are kept separate from non-organic materials and labelled properly before moving on to the next step.

The OCS will replace the OE standards (OE 100 and OE Blended) that were developed in 2004 to track organic cotton. The OCS will allow certified organic input of any material and is no longer limited to cotton.

The OCS is now open to certification bodies for accreditation. When the accreditation process is complete, companies will be invited to begin the process of third-party certification to the standard.

The OCS protocols will include a Chain of Custody (CCS) standard with three separate types of verification – by the company itself, by a customer or supplier, and by an external organisation.
Eco-friendly solutions and practices @ ITMA 2015

Sustainable innovation to help the textile and garment industry move forward continues to be a focus at ITMA, the world’s leading textile and garment machinery exhibition. Picking up the momentum gathered at the previous ITMA show in 2011, the theme at ITMA 2015 (which takes place in Milan, Italy) will be ‘Master the Art of Sustainable Innovation’.

ITMA 2015 will feature several initiatives grounded in the belief that innovative technologies hold the key to environmental sustainability. These will include the Research and Education (R&E) Pavilion, as well as a number of exciting conferences and workshops. “Innovation has been an integral part of ITMA’s DNA. Hence, there will be special emphasis on sustainable innovations at ITMA 2015,” said CEMATEX president Charles Beauduin, adding that: “Continuous efforts will be made to ensure that these initiatives allow industry players to achieve maximum benefit from their participation in the show.”

More details on the initiatives will be announced at a later date.

ITMA has extended from being a global marketplace and one-stop sourcing platform to a knowledge exchange hub. A leading industry showcase for the textile and garment community, ITMA 2015 is expected to span over 100,000sqm of net exhibit space and attract over 1,400 exhibitors. It will be held from November 12-19, 2015. Space applications for the exhibition open on May 15, 2013 at www.itma.com.

Accommodation options in and around Milan are also now available for reservation online. More details may be found on www.itma.com/hotelaccommodation.html. Participants may also contact ITMA 2015’s official travel agent, Ventana, for group bookings.

For information and updates, please visit www.itma.com.

Conference to explore German textile recycling rules

New German legislation placing stricter rules around the recycling of textiles will be among the topics at the 2nd International Textile Recycling Conference, in Vienna, Austria, from April 25-26.

The organisers, the Federal Association for Secondary Raw Materials and Waste Management (bvse), say their textile-recycling members take their responsibility for resource efficiency very seriously. But fulfilling this duty is becoming more and more difficult and, for the past few months, few issues have occupied the industry as much as the restrictions on commercial collections that were introduced by the new law.

Eric Rehbock, bvse executive director, will present strategies and political options for companies to continue business under the new conditions while maintaining the quality of collection and utilisation. The bvse has introduced a quality label for textile recycling.

The event will be moderated by Michael Sigloch, bvse vice-president and chairman of the Division for Textile Recycling. The keynote speaker will be Christine Hochholdinger, head of department in the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, who will focus on the importance of waste management for resource efficiency.

Among other speakers: Alexander Gläser, a lawyer and notary from the law firm Gläser-Schewe-Schirmer, will describe real-life cases that illustrate ways to resist prohibitive orders; Thomas Gaiger, former president of the Bureau of International Recycling (BIR) Textiles Division, will describe the environment for textile recycling in host country Austria; and bvse press officer Ilona Schäfer will present the findings of a consumer survey.
Retailers urged to resell used clothes

WRAP (Waste & Resources Action Programme), the UK-based recycling pressure group, is recommending that retailers should resell their own brand, pre-owned garments in order to prolong their life and reduce the volume of textiles entering landfill.

A report by the group, ‘Evaluating the financial viability and resource implications for new business models in the clothing sector’, follows a study that examined the commercial viability of a number of alternatives to the make-buy-use-dispose business model. Each model was assessed on the opportunity to build turnover as well as deliver a commercially attractive margin and return on investment.

Out of the five business models reviewed, the report said resale of pre-owned garments to the consumer was best. With relatively low set up costs, it provided the quickest payback period; capital invested was recovered in less than two-and-a-half years and a good return on capital was seen over five and ten years.

Dr Liz Goodwin, WRAP CEO, said: “To stay ahead in today’s competitive markets companies need to consider the way they do business. The traditional model of buy-use-dispose can be improved when you consider the significant commercial value that can be realised from used clothes.”

Lucy Shaw, responsible-sourcing manager at department-store chain John Lewis, commented: “John Lewis is committed to reducing the environmental impact of the clothing it sells and we continue to implement innovative ways of doing just that. We look forward to continuing to work with WRAP and exploring alternative business models.”

BGMEA accredits garment factories as environmentally compliant

Twenty-five garment factories have been officially recognised as environmentally compliant by the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and the South Asia Enterprise Development Facility (SEDF).

The BGMEA and SEDF jointly selected the companies as part of an environmental-compliance programme that lasted over two years, during which 250 factories with operations in washing, dyeing and finishing were assessed against environmental standards.

Companies receiving the award include Apex Spinning, Dird Composite Textiles, Fakir Knitwears, Interstoff Apparels, Knit Concern, Meghna Knit Composite, Zaber and Zubair Fabrics, and Dyeing Square Knit Fabrics. Launched in 2011, the programme studied wastewater treatment, air emissions, sludge management, and chemical- and hazardous-materials management by the factories.

Valuable cotton going to waste, says Friends of the Earth study

Cotton is among the valuable materials being unnecessarily consigned to landfill or incineration in Europe, according to a new report by Friends of the Earth (FoE). Others include lithium and aluminium.

The report – ‘Less is more: Resource efficiency through waste collection, recycling and reuse of aluminium, cotton and lithium in Europe’ reveals that the EU currently landfills and incinerates 60% of municipal waste and claims valuable materials that could be recycled or re-used are being thrown away as rubbish, contributing to the demand for more raw materials.

In the case of textiles, for example, it says Europeans discard 5.8 million tonnes every year, with 75% going to landfill or incineration and only 25% recycled.

Ariadna Rodrigo, resource use campaigner at FoE Europe, said: “There is an urgent need to fundamentally change EU policies and end our current wastefulness. Reducing waste is an easy way to increase Europe's resource efficiency. It not only contributes to cutting carbon emissions, it also creates jobs in Europe and reduces dependency on imported raw materials.”

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Top textile brands vow to ‘Detox’ their supply chains

By David Stevenson

In the last few months a number of big-name fashion and outdoor brands and retailers have signed up to the Greenpeace Detox campaign, pledging to eliminate all hazardous chemicals throughout their global supply chains by 2020.


Detox was launched in 2011 to expose the direct links between global clothing brands, their suppliers and toxic water pollution around the world. Fieldwork and investigations in manufacturing countries, along with the testing of branded garments for traces of hazardous chemicals, have resulted in the release of groundbreaking reports that exposed the toxic truth behind items of clothing. For instance, one recent Greenpeace study identified perfluorinated and polyfluorinated chemicals (PFCs), and other chemicals believed to be hazardous, in women’s and children’s outdoor clothing from several of the sector’s leading brands.

Commissioned by the global campaigning group as part of its ‘Chemistry for any weather’ study, independent scientists identified concentrations of toxic perfluorooctanoic acid (PFOA) in items from Jack Wolfskin, The North Face, Patagonia, Kaikkiala and Marmot. Between June and September 2012, as part of Greenpeace’s international Detox campaign, two independent laboratories tested weatherproof jackets and trousers to reveal the levels of PFCs present. PFCs are among the groups of substances on the Detox campaign’s priority list, especially as some PFCs are known to be endocrine disruptors and are harmful to the reproductive system. During the testing, PFCs were found in all 14 samples of clothing; among them was the well-known compound, PFOA. In five samples, PFOA was found in significant concentrations. In six samples fluorotelomer alcohols (FTOhs) were contained in high concentrations. The items purchased by Greenpeace were all outdoor garments bearing well-known brand names. Nine jackets were purchased in Germany, two in Switzerland, and two in Austria. One garment, from Zimtstern, was specially made for the Greenpeace study. The Zimtstern jacket and one from Fjällräven were labelled as PFC-free. According to the labels on the garments, eleven of the 14 were made in China and the other three in Indonesia, Vietnam and Ukraine.

Results from the lab tests revealed that all 14 samples of outdoor clothing contained extractable PFCs. This was regardless of whether the label indicated that the product was made with a fluorine membrane such as Gore-Tex or Teflon, or finished
with a coating containing fluorine compounds. 
Even the items of clothing for which production intentionally abstained from using fluorochemicals, such as the jackets from Fjällräven and Zimtstern, contained a small amount of fluorine chemical. 
However, the sources of these low concentrations were unclear. 
Greenpeace says that, as PFCs are persistent and (as a consequence of their industrial use) very widespread, it may be a real challenge to engage in clean production in which chemicals and/or production facilities are not contaminated by PFCs. 
Greenpeace toxics campaigner Dr Kirsten Brodde said: “We never thought we really would find PFCs in all of our samples, especially as some firms, such as Fjällräven, claimed to be PFC-free. For me there is not enough transparency in their supply chains.” 
For the brands involved in the study, there are questions about what do next. However, Jack Wolfskin said it recognised the PFC problem some time ago and had already started exclusively using PFC-free materials to produce its membranes. 
It also began to transfer to PFOA-free alternatives as early as 2009, meaning all water-repellent finishes will be PFOA-free by the end of 2014. However, it says it cannot currently meet Greenpeace’s demands and entirely move away from the use of PFCs in its water-repellent finishes. 
PFCs are classified by a ‘C’ number and, in general, the higher the number the more problematic the substance – for instance C14 is worse than C8, which is worse than C6. 
Another firm mentioned in the report, Marmont, welcomed the study but said it is currently replacing its range of water-repellent products by using C6 fluorocarbon instead of C8 fluorocarbons. 
According to Marmont, C6 does not break down into PFOA and is the safest alternative for the environment. By spring 2013 the firm will have adopted the C6 durable water-repellent (DWR) finish in over 65% of its styles that need DWR treatment. 
Fjällräven added that the ‘Chemistry for any weather’ results really surprised it when researchers found the presence of perfluorinated toxins in its waterproof jackets – notably the Eco-Trail Jacket. 
Since the results were published, the firm has held discussions with Greenpeace in an attempt to track the origin of the contamination. 
Patagonia stated that it currently uses the bluesign standard to ensure its products do not contain high or harmful amounts of PFOA or other known harmful chemicals. In addition, it has been in the process of adopting DWR technologies that will ensure its fabrics and products are PFOA-free. By spring 2013, Patagonia says it will have converted 40% of its DWRs to the shorter-chain C6 technology. 
The report also highlighted that fluorine-free technologies are becoming increasingly available. An investigative research project at the
Berlin University of Applied Sciences (HTW) certified the performance of these alternatives against fluorine products. In fact, Germany-based Sympatex Technologies, which pioneers PFC-free, durable water-repellent (DWR) treatments, launched its Bionic Finish Eco, with its partner Rudolf Chemie, back in 2008. Dr Martin Mayershofer, head of the research and development department at Sympatex Technologies, said: “Basically there are two different DWRs, the PFC-based ones and PFC-free ones. “Our target, however, is C0 chemistry and we want to head for a broad use of the C0 chemistry in our products. These treatments are PFC-free and the alternative in terms of eco-friendliness.”

Greenpeace added that the outdoor-clothing industry currently presents a very flattering image of itself and expresses its commitment to environmental protection in numerous publications. However, this investigation pointed out a mismatch between assertion and action. Dr Brodde concluded: “This is not about threatening the industry, but about joining the Detox challenge and working to find out what could be the next steps towards zero discharge of hazardous chemicals.”

Greenscape

Sustainable Technologies and the ACIMIT Green Label

By Sandro Salmoiraghi, President, ACIMIT

Combining economic growth with environmental protection has become a common and recurring theme in all industrial sectors. Pursuing sustainable development to guarantee future generations an even higher level of wellbeing is becoming an imperative for the entire global production system. The textile and fashion industry, which is naturally more attuned to capturing the moods of end consumers, has – albeit not always in a constant and univocal manner – elaborated its very own standards for sustainable development. Fashion and sustainable products have always gone hand-in-hand. And for the new development models being defined in the textile and fashion sector, manufacturing processes are crucial in generating products that are not only cost effective, flexible, reliable and safe, but sustainable as well. This is why Italy’s textile-machinery manufacturers are currently at the forefront in providing cutting-edge, eco-sustainable technology that exploits resources rationally while minimising the use of energy and raw materials.

In the absence of shared standards at an international level, initiatives aimed at promoting awareness in the markets and ensuring the commitment of manufacturers on issues related to sustainability are of particular importance. In 2010 ACIMIT launched the ‘Sustainable Technologies’ project, which singles out textile-machinery and systems manufacturers whose production specifications ensure a low environmental impact, combining sustainability and innovation. The energy and environmental performances of textile machinery are measured and declared in a ‘Green Label’ affixed to each machine. Specifications include the unit’s Carbon Footprint (CFP) in terms of energy consumption. The ACIMIT website (http://www.acimit.it/pub/E-sustainable.htm) introduces the project and lists the associated machinery manufacturers who have thus far responded to the call, adhering to the ‘Sustainable Technologies’ project and thereby becoming ‘Suppliers of Sustainable Technologies’.

The quality of the world we leave to future generations depends largely on the decisions we make today, and our capacity to rein in our economic and production systems – which appear to still rely on the illusion of unlimited resources – and to ultimately reverse course. In essence, we know very well that energy, water and raw materials are valuable assets, and that the environment is no longer capable of metabolising increasing volumes of waste and emissions. Our commitment is to help businesses conform their production systems to combine quality and efficiency while respecting the environment.
Rope dyeing savings from Brazzoli
Italy’s Brazzoli has developed a ‘Green Label’ version of its InnoEcology fabric-rope-dyeing machine, which it says is geared to reducing consumption of water, steam, energy and chemicals, as well as to increasing machine productivity, while maintaining the final product quality. As an example, Brazzoli says a jersey fabric that, in 2011, on an earlier generation of the machine, required 35 litres of water per kg/dyed can now can be processed with only 28 litres. The carbon footprint has been reduced to 1.51 kg/CO2 per kilo of fabric, equal to 0.5 kg/CO2 per T-shirt.

Jeanologia softens with nano-bubbles
Enrique Silla, president of Spain’s Jeanologia, used a seminar at the recent Sourcing at Magic Show, in Las Vegas, USA, to present the company’s recently launched E-Soft technology, which softens garments by the generation of ‘nano-bubbles’, while using a minimum quantity of water and entirely eliminating discharges to environment. The technology is said to save 98% of water, 80% of chemicals and 79% of energy used in traditional processes. Another recent introduction was the eco-washer - G2, using oxygen from the atmosphere to impact a vintage look, with a saving of over 50% in water and energy and about 60% in chemicals compared to standard processes.

Digital investment cuts CO2 at Miroglio
The environmental benefits of digital printing were among the qualities highlighted by Italy’s Miroglio Textile when it unveiled its E.Volution platform, based on the super-fast MS-LaRio printing machine. This is a new disperse ink set developed specially by Sensient Imaging Technology, the process is claimed to cut CO2 emissions by 90% compared with screenprinting, and to slash the volume of water used for every linear metre from 50L to 1L. Miroglio has announced it will convert entirely to digital technology by 2014.

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Huntsman extends low-temperature dye range
Huntsman Textile Effects is expanding its low-temperature Avitera SE range of polyreactive dyes with the introduction of a Light Red range. It says the new bluish-red dyes feature a broad-palette colour spectrum in pale shades with high light fastness. Introduced in 2010, Avitera SE is Huntsman’s flagship technology for exhaust application on cellulosic fibres. Dyeing and washing-off processes never need temperatures above 60°C and results in only 5%, or less, of unfixed dye instead of the conventional 15-30%. High solubility offers ultra-low liquor ratios, meaning that water and energy consumption and carbon emissions are cut up to 50%, says Huntsman.

Rhodia launches recycled polyamide microfibre
Rhodia, a business unit of Belgium’s Solvay Group, and its business partner Fulgar have launched a sustainable polyamide 6.6 microfibre called Q-nova, for apparel applications. Q-nova is based on the Continuous Melt Spinning (SCM) process, which produces a new, 99% recycled polyamide. Benefits include a silky touch, softness, ease of dyeing, bright colours, comfort and elasticity.

www.mondex.com
Sustainable seams allow efficient garment disassembly

An innovative technology, wear2, allows garments to be selectively disassembled at the end of life. It’s a possibility that could provide garment manufacturers – especially those in the corporatewear sector – with the opportunity to make their products more profitable.

Wear2 was developed by the SUSCORP project, co-funded by the UK’s Technology Strategy Board, and exploits a patent-pending process, capable of selectively separating textile seams without damaging the surrounding fabric.

The SUSCORP team consisted of a number of partners, including the University of Leeds, C-Tech Innovation, George at Asda, Oxfam Waste Savers, and the Royal Mail Group Limited. The consortium also includes thread company Madeira UK. The resulting technology is now being commercialised as wear2 by the joint IP holders, C Tech Innovation and the Nonwovens Innovation and Research Institute (NIRI), a University of Leeds spin-out company.

Dr Andrew Hewitt, grants manager at NIRI, said: “The project originally targeted the removal of branding from corporate clothing to produce garments with a commercial value that could be sold and re-used. However, it was also found that the technology could remove buttons, zips, labels or enable the complete disassembly of garments.

“The disassembly technique we developed works through a special type of yarn, which is as strong as any normal type of yarn – this has been validated through testing, manufactu-