

Monitoring the water discharge from thousands of suppliers will be an onerous task. CREDIT: SHUTTERSTOCK/KEKYALYAYNEN

Rocky road to Zero Discharge

The brands behind the Roadmap to Zero Discharge, an environmental pledge that sets out commitments concerning chemical waste, have published a second version of the original paper that sets forth a number of changes and updates. In an astute move, the group published a draft version of Version 2 in March – which was heavily criticised by stakeholders – but then amended, updated and rewrote the document so that June 2013's Version 2 is a wholly tighter and more comprehensive document.

In the draft Version 2, the group seemed to be moving away from the aims of the original roadmap and, crucially, altering the original premise of having zero discharge of harmful chemicals (ZDHC) in the wastewater of the supply chains by 2020: "Although the aspirational approach to 'zero' might seem inspiring for some actors, we do not believe that the 'scientific' zero is attainable or even effective," it said. [Editor's note: In recent years, various governments have learnt that grandiose

A supply chain free from harmful chemicals by 2020 is the ambitious target set by signatories to the Roadmap to Zero Discharge, but the brands know they will need more support if the scheme is to have a substantial and lasting effect.

'zero' demands are not always possible in the real world.]

Greenpeace described the draft as a "greenwash" and suggested the brands were using "delaying tactics". The non-governmental pressure group was the catalyst for the formation of the Roadmap two years ago after it published a damning report on chemicals in wastewater in which it named a number

of the brands involved.

A group of stakeholders – representatives from chemical companies, NGOs and technical experts among them – were also critical of the draft, describing it as ‘over-bureaucratic’. “If it substitutes Version 1, we see quite a significant weakening of the project,” they said.

Stakeholders comments were addressed in Version 2, but that did not allay Greenpeace. “The ambition and actions shown by this group seem out of touch with both the reality on the ground, and the demands of the brand’s stakeholders, fans and customers,” it said in a statement published in mid-June. Worse, the “slow progress” has “delayed and frustrated the progress of other more ambitious brands”, it added.

For the signatories to the Roadmap – which include Nike, adidas, Puma, Li Ning, G-Star Raw and Jack Wolfskin – the new version is merely an evolution of what was always going to be a challenging goal. After the initial draft in late 2011, stakeholders more or less said the goal was not possible: “The timeline is unrealistic. Eight years is not enough to change buyer and supplier practices, develop suitable chemical alternatives and impose and/or change regulatory structures,” they said – a disheartening summation for the brands.

However, they were undeterred: “ZDHC is an enormously complex undertaking and 2020 is a challenging timeline. However, goals are more effective when time bound, and the ZDHC members and partners will do their utmost to achieve the goal.”

Priority chemicals

The original aim of the project was to eliminate the discharge of hazardous chemicals in two categories: 11 priority chemical groups, nine of which are already banned from the products, and other chemicals that are restricted or controlled under national legislations. Of the nine already banned products, the aim was to test whether any appeared in water or sludge of supplier factories and, if so, to eliminate them by the middle of this year.

The tenth group of chemicals, APEOs/NPEs, are used across textile and leather manufacturing industries as detergents, so the plan was to draw up a list of detergents that do not contain these and ask suppliers to swap. The eleventh category is the perfluorinated and polyfluorinated chemicals (PFOA/PFOS) group, used for water repellency and over which there has been much debate in the footwear and outdoor industry.

Once more, the shareholders cast doubt over whether the elimination of these chemicals would even be possible. “Many processes in apparel and footwear manufacturing use chemicals that are reactive and a chemical that is non-hazardous going into a process may react with another and become hazardous,” they said in the consultation. A few stakeholders cited the implications of switching chemicals, as changes might lessen one burden, such as toxics, but increase others, such as greenhouse gas emissions.

Benchmarking process

Throughout 2012, the brands undertook pilot schemes. They selected a sample of suppliers that ensured a mix of processes, raw materials and locations. The sportswear brands conducted benchmarking at four sites in China, three in India and one in Vietnam, while the fashion brands investigated five sites in Bangladesh, three in India and three in China.

Over the year, Sustainable Textile Solutions, a division of textile coloration specialist DyStar, helped monitor the wastewater in some of the factories. Chemicals management assessments were carried out, which revealed the presence of the banned chemicals – APEOs, azo dyes, chlorobenzenes, heavy metals, phthalates and short-chained paraffins. Some suppliers had difficulty obtaining specific information on chemicals, due to confidential business concerns.

As well as the pilot tests, the Roadmap group compiled a list of chemicals used in the industry, in collaboration with chemicals companies such as Huntsman, and identified preferred chemistries and mechanisms to incentivise chemical suppliers to invest in the alternatives. “While our inventory is not exhaustive, we believe it to be the most complete, publicly available compilation of information on chemicals used in the textile industry,” they said.

Water repellence

All ZDHC brands committed to phase out the use of long-chain PFCs by no later than January 1, 2015. These substances deliver protection from the weather, keep shoes looking new and increase their longevity. PFOA – generally regarded as harmful – is not an ingredient that manufacturers deliberately add in the making of their products, but a substance that appears in small quantities as a by-product of the synthesis that takes place in the making of C8 chemicals.

“More innovation is needed in order for all ZDHC brands to commit to a complete phase-out of fluorinated repellent technologies at this stage, especially for high performance products,” said the first draft. “However, we recognise there is a strong call to completely move away from fluorinated chemistry, and we will therefore invest in follow-up research to assess the feasibility of alternative technologies.”

After the first year of research, the brands conceded in the draft of Version 2: “The move from fluorinated to non-fluorinated durable water repellent chemistries is challenging. Substitutions for perfluorinated chemistry will require extensive research, if it is at all possible.”

This was again updated in Version 2: “Especially for high performance levels, there are at the moment no PFC-free alternative products available on the market with equivalent functional properties. We aim to encourage innovation and development of sustainable chemistries in general and specifically for potentially hazardous substances that are difficult to substitute. We also want to ensure that we avoid regrettable substitutions by assessing new chemistries before introducing them in our supply chain.”

Some of the alternatives chemicals companies have spent years working to develop are members of the same family of chemicals but based on short-chain C6 rather than C8 chemistry and their manufacturers are confident footwear and apparel companies using them will be free from the risk of detectable levels of PFOA forming in their products.

Changing direction

One of the main concerns from stakeholders in the draft of Version 2 was that it seemed to be watering down the goals and moving away from some of the original aims, particularly in respect to deadlines and timelines.

In it, the group said two key outcomes were “the need to address the biggest environmental impacts from the



manufacturing industry, not necessarily resulting from the intrinsic 'most hazardous chemicals' but potentially water consumption, biochemical oxygen demand and chemical oxygen demand; and the need to implement a risk management strategy".

Stakeholder feedback suggested this could be widened to general health and safety in the workplace, particularly in light of some recent building fires in the textile industry. But the group thought this was a step too far: "Other parts of our organisations are working on improving this crucial issue and for most brands this is considered a labour compliance issue and is managed in other brand programmes focusing on labour compliance." As such, the extension to "overall life cycle and socioeconomic aspects" is not mentioned in Version 2.

The list of 11 chemicals were not focused on in the second draft, instead: "As a group, the textile industry will need to identify and prioritise chemical substances of concern and substitute them with safer alternatives."

Stakeholders wondered: "What about other substance groups and phase-out targets? What happened to the inventory list?" they said. "Do not let Greenpeace set the chemical classes; say which you think are the highest priority."

Taking the comments on board, there is more emphasis on chemicals in the final Version 2 – although not specifically restricted to the 11. "We reincorporated many of the principles, definitions and the focus on hazardous chemicals that were present in the first Joint Roadmap. It was never the intention to change or remove ourselves from the first version of the Roadmap," said the brands.

Suppliers' role

One of the key questions that has been raised is who will pay for all the changes that might need to occur to reach the target, such as control technology, auditing or the move to greener chemicals. "We wish to move the industry to new levels of transparency in chemical usage, but we must also understand the technical capacity and cost and regulatory implications for individual suppliers to meet this expectation," said the first report.

At the consultation, shareholders suggested the suppliers might not be able to afford to make alterations, or that perhaps, if forced to change, they might direct money away from wages to pay for greener chemicals.

The brands responded in the draft of Version 2: "An important part of systems change is to reward suppliers that are strong environmental performers. We envision this will include a best-practices procedure on how to develop a sourcing programme that incentivises strong environmental

From the raw materials providers through to finished products, ZDHC brands need everyone on side if they are to meet their goal.

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performance, including strong integrated chemicals management. In complement there will be guidance developed to delist or remediate suppliers that are not conforming to our standards."

Certification group Bureau Veritas set up a monitoring system specifically related to the Roadmap. Senior director Samuel Wong said: "Our service has been designed to help manufacturers demonstrate their environmental credentials so they can ... remain part of the textiles supply chain."

However, no mention of the delisting in the final Version 2, rather an admission that the brands need to present a clear message: "This collective voice becomes more important as we move further into our supply chains, where each individual brand makes up only a small percentage of business volume at tier two and three suppliers."

Again, stakeholders warned: "The key factors will be having sound measurement and verification of performance and making the business case for engagement. If there is no business case, the supply chain will be as bad as the market will allow."

The next stage of the programme encompasses online and in-person training schemes. The ZDHC brands aim to have introduced this in the top suppliers providing 50% of the brands' total production by 2015, and "achieve industry acceptance and demand for ZDHC's offered trainings". In terms of cost, the group suggested this would be looked at on a brand-by-brand basis, due to antitrust and competition principles.

Collaboration

For the project to reach its aims and have the desired impact, more companies and suppliers must sign up. "Expansion of ZDHC participation is crucial in order to tackle the complex issues involved and to lift these challenges from a few industry leaders to the entire industry," said the brands.

The group aims to have 20 signatories by the end of this year, and 30 by the end of 2014. They have also requested chemicals groups become active members.

"Our greatest challenge remains in galvanising support throughout the supply chain," they admit. "Ultimately, the industry needs to set the compass needle towards the same 2020 goals as the ZDHC members. We need alignment and commitment throughout the industry, as well as the resources from all players, if we are going to succeed." 