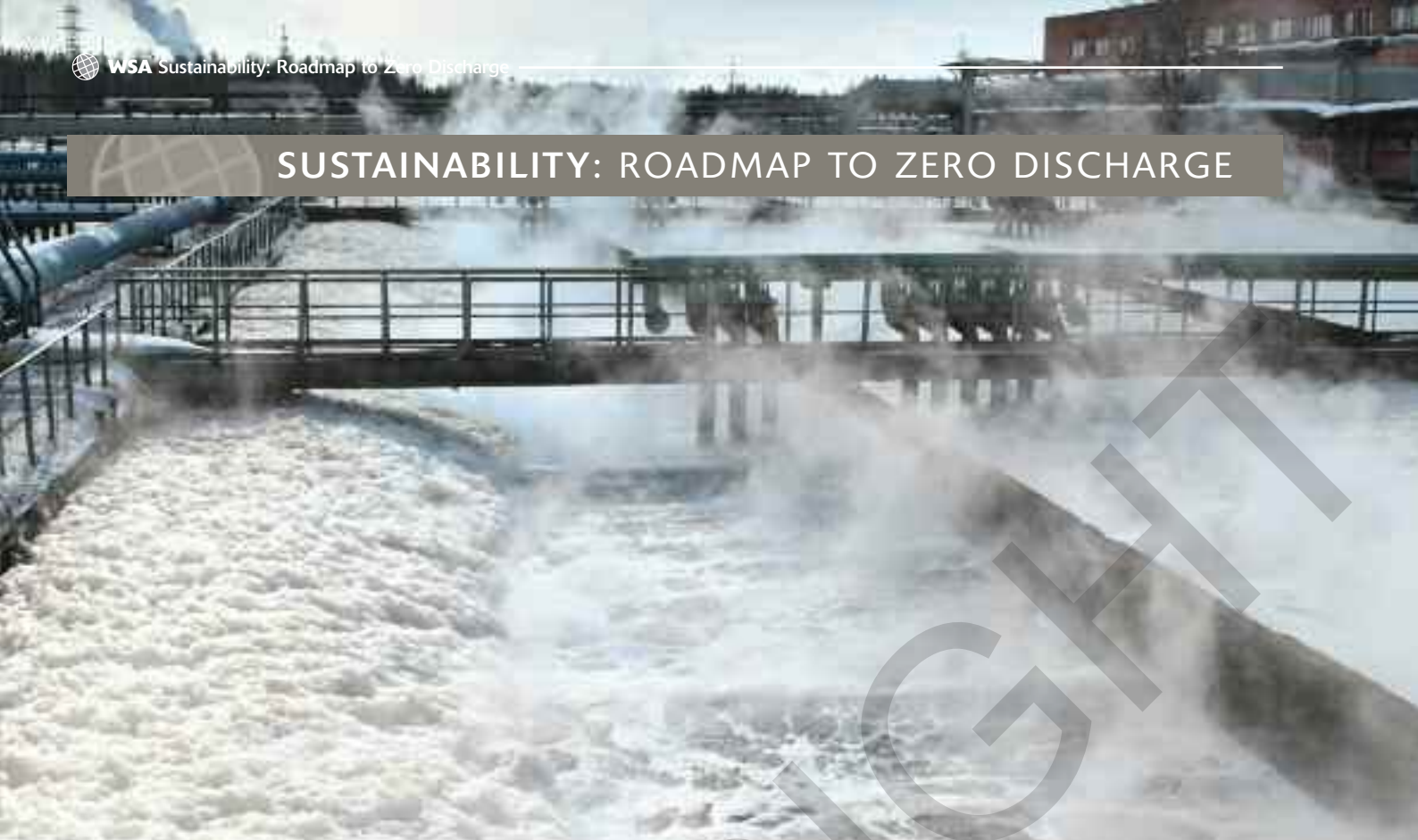
SUSTAINABILITY: ROADMAP TO ZERO DISCHARGE



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.

Change of direction for chemical-free wastewater project

The brands behind the Roadmap to Zero Discharge, an environmental pledge that sets out commitments concerning chemical waste, have published an updated draft of the original paper that sets forth a number of changes and updates and, crucially, extends the scope of the project to cover environmental and social issues.

One amendment has been highlighted by Greenpeace as potentially 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 says.

The rewording is subtle but Greenpeace has described it as a "greenwash" and suggests the brands are 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. In this updated draft in particular, it has singled out Nike, adidas and Puma for making "little progress" on the issue over the past 18 months. *[Editor's note: In recent years, various governments have learnt that grandiose 'zero' demands are not always possible in the real world.]*

However, for the signatories to the roadmap – Nike, Li Ning, adidas, G-Star Raw, H&M, Puma, Levis Strauss & Co, Jack Wolskin and Inditex – the revised draft is merely an evolution of what

Monitoring the water discharge from thousands of suppliers will be an onerous task.
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was always going to be a challenging goal. After the initial draft in late 2011, 30 stakeholders – representatives from chemical companies, NGOs and technical experts among them – were asked for feedback, and they 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, outlined in the first draft, 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 outdoor clothing industry. The initial focus was on replacing long-chain C8 chemistry with other chemistries by 2015. Some brands individually committed to earlier timelines.

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. Others said the brands need to drive towards zero use of certain chemicals, and not just in the discharge, as the only way to guarantee none in the wastewater.

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. Key processes targeted were dyeing and finishing, washing, printing and durable water repellent (DWR) application for a range of materials including cotton, polyester, denim and leather. 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 say.

Water repellence

All ZDHC brands committed to phase out the use of long-chain PFCs by no later than January 1, 2015. In the apparel and footwear industry, these substances deliver protection from the weather, keep a garment looking new and increase its longevity. PFOA – generally regarded as harmful – is not an ingredient that manufacturers deliberately add in the making of their DWR 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: "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."

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

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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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chemistry and their manufacturers are confident clothing companies using them will be free from the risk of detectable levels of PFOA forming in their clothing products.

Changing direction

The main changes to the Roadmap's approach involve the move to a new structure – an environmental management system (EMS) – and the broadening of the scope. "Two key outcomes are: the need to address the biggest environmental impacts from the textile 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," says the new draft.

"We realised that many of our projects align with a 'plan, do, check, act' cycle, which is the basis for an EMS," it adds. "Our objective for this restructuring is to begin drawing the picture of what our supply chains should work towards from now on. By folding in all our existing work streams, we give our programme a structure that is known and understood in the industry and as easy as possible to communicate."

Perhaps tellingly, the list of 11 chemicals are 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." It will integrate the Outdoor Industry Association's chemicals management framework, an industry-standard approach to chemicals management in the supply chain, into its working.

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, "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 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."

The next stage of the programme encompasses online and in-person training schemes at supplier level, a tracking system that monitors skills by person, creating affiliations with training and certification organisations and general training on chemicals management. The online programme is currently in English but will be translated into Mandarin. There will also be dye house and printer-specific protocols, acknowledging how vital these sectors are in the programme.

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

Stakeholders suggested designers and buyers should be rewarded for selecting environmentally-preferable materials, which they say is not currently happening in any significant way.

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," say the brands. They aim to have 20 signatories by the end of this year, and 30 by the end of 2014. They have also requested chemicals groups sign up and become active members. "Our greatest challenge remains in galvanising support throughout the supply chain," they admit.

"Moving forward, we will ask regulators, scientists, suppliers and the chemical industry to support our efforts. Only together with these organisations and many other stakeholders and partners will we be able to succeed in moving the industry towards a sustainable industry."

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