



# Destination Zero:

seven years of Detoxing  
the clothing industry



## Forward

I have been working for Greenpeace for decades, so I know that change is sometimes hard to achieve and takes many years to build up. This is why I am especially proud and happy to see how the Detox campaign has inspired a transformation in the clothing industry in the seven years since its launch. When we started the campaign to protect rivers and oceans from pollution from the hazardous chemicals used to manufacture clothes, we were met with plenty of resistance and doubt by brands, who claimed that cleaning up their supply chain was impossible.

Clothes are very close to the hearts of many people - who worked with us to support our challenge on changing the industry towards a clean future. The creativity and enthusiasm of hundreds of thousands of people around the globe, beyond our traditional supporters - from nature lovers and scientists, to activists, fashionistas and managers, models and creatives - should send a signal to those brands that have not yet committed to Detox: people care about nature and the way that their clothes are made. So do many people who work for big clothing companies, who stepped up to Greenpeace's challenging approach, setting an example for other brands to follow.

We have made great progress in phasing out hazardous chemicals - there has been a major paradigm shift in the clothing industry triggered by the Detox campaign, which now takes responsibility for their production instead of just their products. It is very important that we don't stop here: the huge material intensity of textiles lifecycle can

never be sustainable, no matter how many chemicals get eliminated, and many more problems lie ahead for the clothing and textiles industry. With our climate heating, waste mountains growing and microplastic fibre pollution from synthetic clothing spreading in our oceans, every person must reject the status quo and push for a better future. It's now time for a new impossible - a paradigm shift towards forward-thinking business models in line with planetary boundaries. The Detox Campaign should encourage us all to think of the seemingly impossible, aim higher, look closer and collaborate more.

Yours,

**Bunny McDiarmid**

Executive Director of Greenpeace International.

## What the Detox companies say

Inditex has witnessed greater awareness in the textile sector since the Detox campaign started, especially manufacturers that were not used to having health and safety standards in place are beginning to realize the importance of the correct management of chemicals. This must be a joint effort.

**Felix Poza Peña, Chief Sustainability Officer at Inditex**

The Detox campaign has definitely helped to catch the outdoor industry's attention on the need for changes in chemicals management. This has been broadened upstream to the supply chain and the chemical industry, as well as downstream to customers.

**Hilke Patzwall, Senior Manager Sustainability & CSR VAUDE Sport**

The launch of the Detox Campaign in 2011 was a clear wake-up call for the whole industry. While the original focus was initially limited to chemical management and environmental compliance in Tier 2 of the industry's supply chain, it also helped to expand social compliance and environmental performance efforts for these suppliers.

**Stefan Seidel, Head of Corporate Sustainability PUMA SE**

The Detox Commitment gave us input to define challenging goals, that go beyond single regulations and foster the involvement of the whole supply chain, and more.

**Riccardo De Pol, PhD, Head of Product Compliance & Sustainability, Valentino SPA**

We can only achieve our target - zero discharge of hazardous chemicals - when all chemical formulators participate (including smaller, local ones) and more sustainable alternative formulations become normal. Therefore, we would like to see more brands commit to Detox and join the ZDHC as a member to put more pressure on the market.

**Sara Bermúdez Couto, Manager, Product Safety Management & Testing, Esprit**

The challenges are the same for the whole industry: knowledge and reliable information, both of which are important for establishing sound chemical management in factories and tackling the issue of hazardous chemicals in the supply chain.

**Florian Schütze, Head of Sustainability, Lidl International**

We have found that, on the whole, the Detox campaign has been received positively and that industry awareness over the last three years has increased dramatically, especially where several brands are working toward the same requirements in their supply chain. The challenge is greater for those supply chains which are more isolated and which are only working on Detox for one global brand. In these cases, it is more effective to drive change through local industry collaboration and government regulation.

**Alan Wragg, Category Technical Director for clothing at Tesco**

## Destination Zero: seven years of Detoxing the clothing industry

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July 12, 2011

### Report - Dirty Laundry

After a year-long investigation, Greenpeace releases the 'Dirty Laundry' report, exposing hidden links between textile manufacturing facilities in China that discharge hazardous chemicals into the water, and international brands such as the sportswear giants Nike and Adidas.

July 13, 2011

### Greenpeace launches the Detox campaign

Nike and Adidas to be the first clean water champions by teaming up with their suppliers and eliminating all toxic, persistent and hormone-disrupting chemicals from their products and production processes.

July 15, 2011

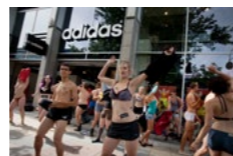
### Retail mannequins quit their day jobs and join the Detox challenge



© Caner Ozkan / Greenpeace

July 23, 2011

### Mass striptease in front of adidas and Nike stores around the globe



© Gordon Welters / Greenpeace

July 26, 2011

### Win! 1st Detox Commitment, Puma

Thanks to global people #PeoplePower, the first win for a toxic-free future comes less than two weeks after the 'Detox' challenge kicked off! Puma leaps ahead of Nike and Adidas and publicly commits to eliminate all hazardous chemicals from its product lifecycle by 2020 and begins to race towards transformational change in the sector.



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## 1. Executive Summary

Seven years ago, Greenpeace launched its Detox campaign to address the widespread use of hazardous chemicals in the manufacturing of clothes, which were being released into waterways in countries such as China, Indonesia and Mexico. It was the first campaign to challenge big clothing brands from all sectors to take responsibility for the environmental impacts of their manufacturing supply chains and commit to achieve zero discharges of hazardous chemicals by 2020.

This challenge was taken up by 80 brands and suppliers, from fashion and sportswear, to luxury, multiple retailers and the outdoor sector: after intensive efforts to implement their commitments, we wanted to see how far they have come. As we draw closer to the 2020 deadline for achieving zero discharges, for the first time, Greenpeace has assembled the collective achievements of Detox Committed brands and companies from all of the sectors in one place, compiled from their responses to our survey about their progress.

### Delivery of the Detox commitment

All of the committed brands and companies are delivering on the rigorous management of hazardous chemicals in a complex and global supply chain - although not all at the same pace as they face different challenges due to their size and specific market. Collectively, they have reached a critical point where there's no going back, demonstrating the significance and feasibility of the paradigm shift advocated by the campaign.

Companies have come a long way. At first Greenpeace had to unveil the underbelly of

an industry eager to provide consumers with the latest trend at the cheapest price while turning a blind eye to the environmental and human costs. It took lots of investigation and documentation to get all of them on board - through revelations that hazardous chemicals restricted in the EU and US such as alkylphenol ethoxylates (APEs) were routinely discharged in the Global South - but we could always count on the support of the public and heartfelt petitioning from our followers. There were also many positive highlights along this corporate journey, such as the collective commitment of Italian suppliers from Prato and Como or the responsiveness of the smaller outdoor brands. Ranking brands through our evaluations also kept the dynamic going.

The first step for companies that signed the Detox commitment was to set up a black list of hazardous chemicals (aka MRSL (Manufacturing Restricted Substances List)) banned across all stages of manufacturing, with ambitious elimination timelines and target levels to be reached in wastewater. There were some disputes about the ambition, but in the end, the objectives and implementation tools are converging. The ZDHC (Zero Discharges of Hazardous Chemicals) foundation, created as a collective response for the brands, has become a meaningful programme over the years, with the potential to scale up the Detox roadmap to the rest of the clothing and textiles industry and to keep up the momentum for change.

### Building capacity

Eliminating hazardous chemicals requires the in-depth involvement of brands with their suppliers, not only their "tier 1" direct

Aug 02, 2011

**Design competition**

People redesign logos of Nike and Adidas to reflect their toxic practices.

Aug 11, 2011

**50,000 people sign the petition and ask for a toxic-free future**

Aug 12, 2011

**People Power in Shanghai**

Thousands of people join the cause in Shanghai and show off their Detox tattoos.



© Athit Perawongmetha / Greenpeace

Aug 17, 2011

**Detox Commitment, Nike**

Nike pledges to phase out all hazardous chemicals until 2020.

Aug 19, 2011

**People Power against adidas**

Activists around the world rebrand adidas stores with huge "Detox" stickers.

Aug 23, 2011

**Report - Dirty Laundry 2; Hung Out to Dry**

Greenpeace releases new research that reveals how major clothing brands use nonylphenol ethoxylates (NPEs), which subsequently break down to form toxic substances, in their manufacturing.

commercial subcontractors but further up the supply chain where hazardous chemicals are used and most of the pollution happens. Confronted with the reality of insufficient chemical management practices on the ground, brands have often had to build the necessary capacity from scratch by providing training and technical assistance.

This involvement changes everything; it becomes obvious that establishing long-term relationships with suppliers is the key to reaping the benefits of investments in cleaning up the manufacturing supply chain. So while transparency was already a pillar of Detox, with brands required to publicly report upon their progress and to ensure that a growing fraction of their suppliers publish wastewater testing results, it was a natural step to also disclose their list of suppliers - with some showing best practice by sharing 3 tiers of their supply chain list, while a few are already committed to include the earlier stages of fibre production.

**The substitution solution**

Through questioning the use of hazardous chemicals, companies discovered that some uses were not required or were simply gimmicks with a disproportionate environmental cost. However, for a lot of uses, it has been necessary to find replacements. We are told that substituting these chemicals can be a difficult exercise, with the main barriers being the cost, availability and robustness of alternatives, the need for proper assessment to avoid "regrettable substitution", the lack of recognition and assistance from regulators, and the chemical industry, which still does not bear the burden of proof for the safety of their

chemical formulas. Despite this, the elimination of hazardous PFCs, one of the key chemical groups highlighted by our campaign, has been achieved by most Detox companies, with 72% reporting that their complete elimination from products has been achieved, while all have made significant progress.

**Going forward**

A lot more still needs to be done leading up to 2020. Companies report many technical challenges but also point to the need for policy-makers, in the EU and countries of manufacture, to take responsibility and translate the best practice into regulation. The chemical industry also needs to be more transparent on the formulations they provide, develop safer alternatives and further reduce unintentional contaminants.

The collective progress made by the Detox companies means there is now no excuse for the whole textile industry, or any other industrial sector, not to endorse and implement Detox. Fashion is at the crossroads, with huge environmental impacts and many more challenges than just hazardous chemicals. However, with the circular economy the new buzzword within the sector, Detox companies agree with us, circularity cannot happen without designing out harmful substances as an absolute prerequisite.

This report tells the story of the Detox campaign, its supporters, the organisations now involved in implementing Detox, its impacts on policy and how it is transforming the clothing industry.

**2. Introduction**

2011: the textiles industry is a major user of hazardous chemicals<sup>1</sup> and industrial polluter of freshwater worldwide.<sup>2</sup> For many years local communities in the Global South have witnessed multi-coloured rivers, as a result of effluent from the dyeing and processing of clothes for global clothing brands. Yet most brands are not clearly associated with this pollution of rivers and waterways, nor do they take responsibility for the problem. The colourful effluents hide an even more serious and sometimes invisible problem - **hazardous chemicals** - some of which are already known to cause cancer or disrupt hormonal systems in humans and/or animals. With insufficient control from local authorities, these effluents are polluting freshwater resources and eventually the ocean - in some cases leading to the build up of hazardous chemicals in the food chain<sup>3</sup> - and impacting the health and livelihoods of local communities in the Global South.<sup>4</sup>

**A pattern of pollution - from the North to the South**

For decades, factories from all industrial sectors, especially in Europe and North America used rivers and waterways as a convenient dumping ground for their waste, often leaving a huge and costly legacy of hazardous chemical contamination.<sup>5</sup> The prevailing mindset that toxic pollution could be diluted and dispersed in the environment was widely held by many in industry and governments. Only after years of campaigning by the environmental movement did legislators and companies begin to shift towards a more precautionary approach where hazardous chemicals are banned or restricted. In 1998 the global Stockholm Convention was agreed, which banned the most well-known hazardous and persistent chemicals,<sup>6</sup> while



© Greenpeace / Cris Toala Olivares

Aug 31, 2011

**Detox Commitment, adidas**

Thanks to global people power, the sportswear giant accepts the Detox challenge and joins Puma and Nike on the journey to a toxic-free future.

Sep 13, 2011

**People power calling on H&M**



© Greenpeace / Ludvig Tillman

### 3. On the Detox trail

more comprehensive legislation designed to target the multitude of hazardous chemical villains being made and used within the EU was agreed in 2006, when the EU adopted its REACH regulation.<sup>7</sup> This regulation was supported by several global clothing brands, conscious of a heightened level of consumer awareness in Europe on the issue of hazardous chemicals in products. However, these positive regulatory developments are slow to come into force, still contain loopholes, are just starting to address the problem of numerous unregulated hazardous chemicals,<sup>8</sup> and still do not drive the identification of safer alternatives.

In the meantime, much of the industrial manufacturing that had caused the hazardous chemical problem had already been outsourced to countries in the Global South. Was the textiles industry replicating its familiar pattern of “pollution by dilution” in these countries?

In 2011 Greenpeace launched the “Detox My Fashion” campaign to reveal the problem. We followed the toxic trail, from the end of the pipe, back to the factories making our clothes, to the international clothing brands using these factories to make their products, which have the power to change the system and Detox our future.

This report shows how people power helped to shine a light on this unacknowledged problem, persuading brands and companies to step up to the Detox challenge by committing to zero discharges of hazardous chemicals by 2020. It charts the progress that has been made since then and asks: is this the beginning of a transformation of the clothing industry?

Starting at the end of the pipe, Greenpeace investigators sampled the effluent of two large textiles suppliers in China, the largest textile manufacturing hub in the world.<sup>9</sup> Because discharging wastewater at night to avoid monitoring by the regulatory authorities is a well-known practice, we took samples during the day and the night. We screened the samples and looked for well-known hazardous and persistent chemicals, some of which were already regulated by many industrialised countries (see Box 1), to see if textile factories in China were using and discharging them into waterways. We found a wide range of hazardous chemicals including alkylphenols - banned for use in textile manufacturing in Europe - were being discharged into rivers, as well as perfluorinated chemicals (PFCs). The problem of these unseen chemicals was not being solved by the modern wastewater treatment plants installed at both the facilities, which cannot ‘treat’ many persistent hazardous chemicals; the only option is to tackle such chemicals at their source - by going for zero use. Our investigators then traced the chain of custody back to the global sportswear brands making their clothes at these facilities - and confronted them with the evidence from the end of the pipes.

We challenged global sportswear giants to become the first **clean water champions** - by taking responsibility for their supply chain pollution and aiming for zero discharges of all hazardous chemicals from their production processes.

Sep 20, 2011

**Detox Commitment, H&M**

H&M pledges to publish information about chemicals released from the factories of its suppliers and to eliminate the use and release of all hazardous chemicals from its supply chain by 2020.

Oct 25, 2011

**H&M kicks off transparency revolution**

H&M publishes a detailed version of their Restricted Substances List on their website, a small step that represents the beginning of a transparency revolution that is set to sweep the fashion sector.

Greenpeace’s call for corporate responsibility - and the corresponding demand for transparency on the discharge of hazardous chemicals by factories - was greeted by many in the industry with scepticism.<sup>10</sup> However, many thousands of people supported our campaign by urging the sports brands to act, in the first of many creative actions and petitions by citizens motivated to join the Detox campaign. As a result, Puma became the first brand to sign up to a “Detox commitment” to eliminate the discharge of ALL hazardous chemicals by 2020 (see Box 1). It was soon followed by Nike and adidas,

despite their initial reluctance. Not long after, H&M became the first of many fashion brands to commit to Detox.

Almost immediately following the launch of the campaign, the industry responded collectively by creating the **ZDHC (Zero Discharges of Hazardous Chemicals) group** in 2011 to provide a coordinated response to the campaign and enable collaboration of the brands (see Box 6, ZDHC).

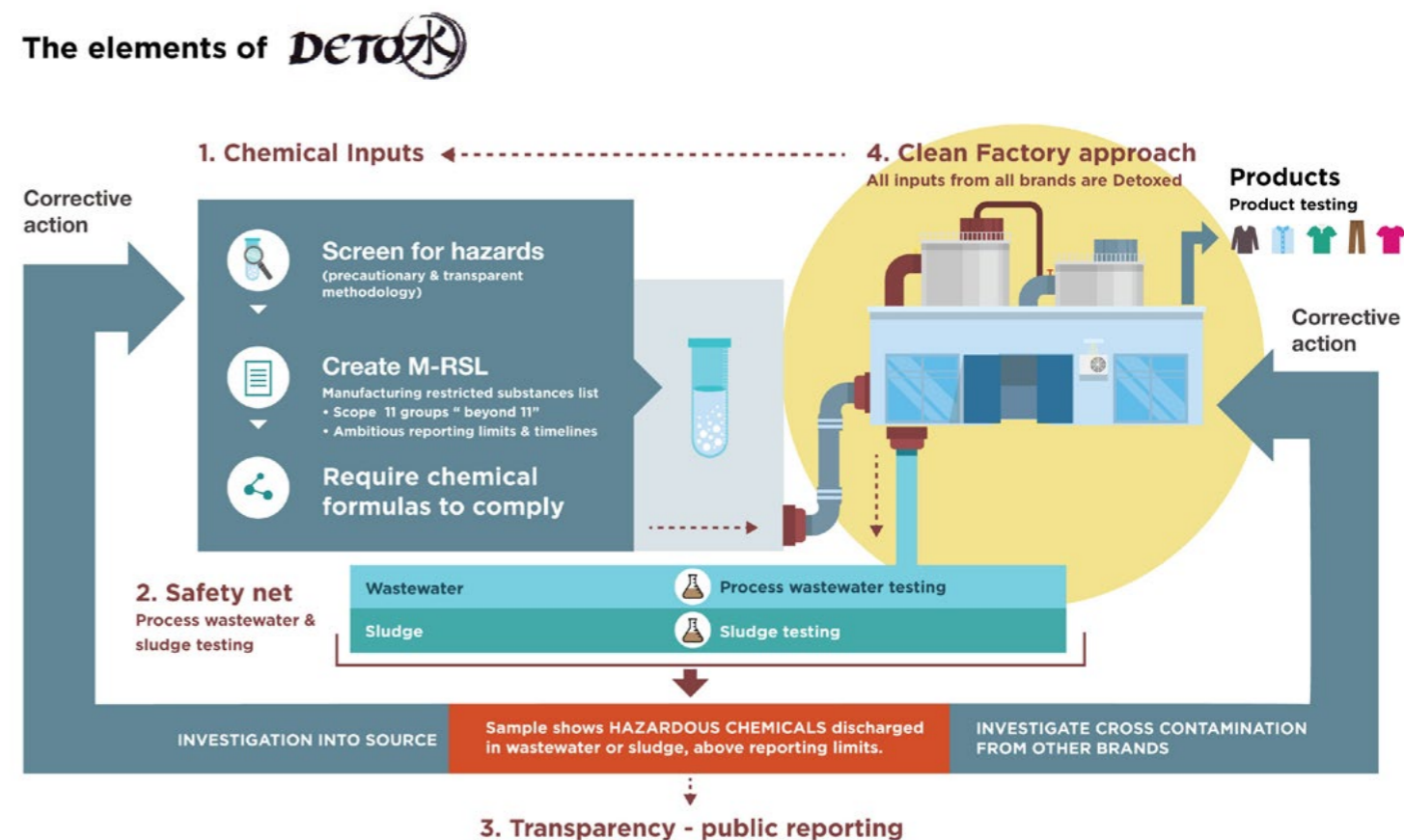


Figure 1: The elements of Detox (see Annex 1 for further details)



Beautiful Fashion  
Shouldn't Cost The Earth  
PWAPELING GREENPEACE

Katakan tidak  
Untuk Fashion Berjejak  
PWAPELING GREENPEACE

Say NO To  
Clothes with a TOXIC Trail  
PWAPELING GREENPEACE

## Box 1 - The Detox Commitment

Brands signing the Greenpeace Detox Commitment implement preventive and precautionary action on chemicals, by setting goals to eliminate hazardous chemicals in manufacturing.

### The key elements of the Detox Commitment are:

- Chemicals management - specifically setting a Manufacturing Restricted Substances List, or M-RSL, which initially focussed on 11 priority hazardous chemical groups (see table 1) and testing for them in wastewater discharges and sludge.
- Transparency - of the wastewater and sludge testing results, to be published by the supplier on an online platform, and the publication of suppliers lists to include wet processing (washing and dyeing) suppliers (Tier 2/3).
- Substitution and elimination - with a particular focus on alkylphenol ethoxylates (APEs), per- and polyfluorinated chemicals (PFCs) and phthalates

Table 1: The 11 priority hazardous chemical groups and examples of uses and hazards

CHEMICAL VILLAINS - the 11 priority hazardous chemical groups: 11	Examples of uses /functions <sup>12</sup>	Examples of hazards to environment and human health (see note*) and relevant regulation
1. Alkylphenols/alkylphenol ethoxylates (APs/APEs), including nonylphenols/nonylphenoethoxylates (NPs/NPEs)	Detergents and auxiliaries	APs: toxic to aquatic life, persistence, bioaccumulation, endocrine disruptors. Heavily regulated in the EU.
2. Phthalates	Softeners in plastic coatings	Some phthalates are classed as reprotoxic, others are known for other types of toxicity. Under EU REACH legislation many phthalates are listed as Substance of Very High Concern. 13
3. Brominated and chlorinated flame retardants (BFRs, CFRs)	Fire retardant textiles	Many are persistent and bioaccumulative. Some PBDEs are endocrine disruptors and are banned under EU law.
4. Azo dyes with cleavable carcinogenic amines	Dyes and colourants	Release chemicals known as aromatic amines, which are carcinogenic for these azo dyes. Banned by the EU in textiles that come into contact with human skin.
5. Organotin compounds	Antibacterial and anti-mould agents;	Some organotins are persistent, bioaccumulative, and can affect immune and reproductive systems. Consumer products containing more than 0.1% of some organotin compounds are banned in the EU.
6. Per- and polyfluorinated chemicals (PFCs)	Water-, oil-, stain- resistant coatings	Many PFCs are persistent and bioaccumulative. Some can affect the liver or act as endocrine disruptors, altering levels of growth and reproductive hormones.
7. Chlorobenzenes	Carriers	Persistent, some are bioaccumulative, commonly affect the liver, thyroid and central nervous system; HCB is an endocrine disruptor.
8. Chlorinated solvents	Carriers/solvents	Effects vary from chemical to chemical: potential health effects include central nervous system, reproductive, liver, and kidney toxicity, and carcinogenicity.14 Regulations include a severe restriction on the use of TCE in the EU in both products and fabric cleaning
9. Chlorophenols	Antibacterial and anti-mould agents	PCP (penta chlorophenol) is highly toxic to humans and can affect many organs in the body. It is highly toxic to aquatic organisms. The EU banned production of PCP-containing products in 1991.
10. Short chain chlorinated paraffins	Flame retardant & finishing agent	Highly toxic to aquatic organisms, persistent, bioaccumulative. Their use has been restricted in some applications in the EU since 2004.
11. Heavy metals: cadmium, lead, mercury and chromium (VI).	Dyes and colourants; additives in some plastic coatings	Some can bioaccumulate in the body over time and are highly toxic, with irreversible effects including damage to the nervous system (lead and mercury) or the kidneys (cadmium). Cadmium is also known to cause cancer.



### From the pipe to the product - and back again

So, hazardous chemicals were proven to be released into rivers from two factories, but was this an isolated example of bad practice or more widespread? To establish the scale of the problem Greenpeace took samples of the clothing and footwear sold by global brands from 18 countries around the world. Our scientists found alkylphenol ethoxylates (APEs) in two thirds of the clothing or footwear articles tested.<sup>15</sup> This proved that they were being used during manufacturing, that the practice was widespread and that therefore the discharge of APEs into rivers and waterways in the Global South was inevitably taking place on a large scale. A double standard was exposed: the use of APEs in manufacturing was already outlawed in the EU.

In an ironic twist, we also revealed the scandal of these hazardous chemicals still finding their way back into rivers and waterways in the EU and elsewhere - after the clothes were sold and washed in customer's washing machines, and then released into rivers from the public wastewater treatment plants that cannot deal with them.<sup>16</sup> This revelation exposed a serious loophole in the EU's REACH regulation, one that was closed three years later when EU member states voted to ban the toxic chemical NPE from textile imports, in a significant victory for the campaign.<sup>17</sup> It

## Box 2 - China

A large hot, smelly "black swirl" marks the point where a huge underwater pipe pumping effluent from a big industrial park, bubbles up under the tidal estuary of the Qiantang River in Zhejiang Province. The sheer scale of the pollution in this area is shocking, even for our team in East Asia that had spent many years working on the issue.

As the major manufacturing hub of the global textile industry, China was a natural starting point for the Detox campaign. The scale of the problem that confronted our investigators was immense and the Greenpeace campaign highlighted many different pollution stories over the years. The 'black swirl' symbolised one of the biggest problems that confronted us - unravelling the sources of pollution coming from large industrial parks, where effluent from numerous factories was mixed together and discharged into one communal wastewater treatment plant. This made it impossible to connect hazardous chemicals in the discharge directly to any individual factory in the area, where one third of China's textile dyeing and printing takes place, let alone link this to global brands.

So, to shine a light on this problem, Greenpeace released sample results from the "black swirl", which showed hormone disrupting and cancer causing chemicals were being discharged.<sup>18</sup> To witness the pollution we placed mannequins wearing the Detox logo (meaning "water" in Chinese), fitted with cameras. Wearing protective gear the team entered the hot, smelly, dirty water and were able to secure the mannequins down. Then, at the press conference in Beijing where Greenpeace released its report, we live streamed footage of the scene of the environmental crime directly to a room full of shocked journalists.

There was a big increase in public awareness about hazardous chemicals and water pollution as a result of Greenpeace's work to reveal the truth. Water pollution issues rose up the policy agenda, accelerating the development of industrial standards on the Textile industry in 2012,<sup>19</sup> ensuring that stricter chemicals controls were applied to textiles manufacturing in China's 5 year plan in 2013,<sup>20</sup> and leading to the release of transparency (PRTR) regulation in 2012, which was later revoked, reportedly due to lack of implementation capacity, a step backwards for the efforts of brands and suppliers working to Detox in China.<sup>21</sup> The industrial standards were also weakened at a later date, but nevertheless different brands and suppliers are now working together through platforms such as the ZDHC, to achieve their Detox commitments. The collaboration and progress made by many suppliers has been evident at industry conferences via the **China National Textile & Apparel Council (CNTAC)**, which in turn is influencing policy makers. A shift to cleaner production is also apparent in reports about recent interventions by the Chinese Government to clean up and close down polluting factories, including textiles facilities, as part of a major drive to address air and water pollution from all industries in China.<sup>22</sup>



Nov 21, 2011

**ZDHC Joint Roadmap launched**  
C&A and Li-Ning team up with Adidas, Nike, Puma and H&M to launch a joint roadmap designed to tackle toxic pollution by the fashion industry - the Zero Discharges of Hazardous Chemicals

Nov 21, 2011

**Detox Commitment, C&A and Li-Ning**

Jan 11, 2012

**Philippines bill against toxic pollutants**  
The Detox campaign leads to Senator Miriam Defensor-Santiago filing a bill against toxic polluters



© Alanah Torralba / Greenpeace



© Adriana Lopez / Greenpeace

also showed that we cannot use persistent and hazardous chemicals to manufacture a product in one part of the world and expect the problem not to appear in other regions - especially when brands perpetuate this problem by continually shifting production to countries with lower labour costs and environmental regulations. These findings supported our main campaign demand: instead of attempting to clean up effluent, wherever that may be, we need to stop using hazardous chemicals to make our clothes - and aim for zero discharges of hazardous chemicals, globally.

### Investigating textile factory pollution - China and beyond, to Mexico and Indonesia

Our investigations into textile manufacturers in China did not stop there: we also showed how effluent from textile factories in two industrial zones is mixed together when discharged into shared public wastewater treatment plants, creating a perfect smokescreen for their unacceptable environmental practices and making it impossible to pinpoint overall responsibility for the presence of hazardous chemicals released from the treatment plants to any of the global brands using these factories (see Box 2).<sup>23</sup>

Worse, we found that these problems were not limited to China. After similar investigations in Mexico, we identified denim giant Levis as one of the clients of two factories discharging a diverse range of hazardous chemicals including alkylphenols and phthalates (see Box 3).<sup>24</sup> Soon after, the

March 25, 2012

**Report - Dirty Laundry - Reloaded**  
New research uncovers how chemicals used by global fashion brands are released into waterways when consumers wash their clothes in ordinary washing machines.



© Alex Stoneman / Greenpeace

company committed to “Detox”. Meanwhile in Indonesia, the fashion brand GAP refused to take responsibility for the hazardous chemical pollution being discharged by its supplier into the Citarum River, despite pressure from their customers, activists and fashion lovers (see Box 4).<sup>28</sup>

Back in East Asia our team focused next on the factories dyeing children’s clothes in one of China’s biggest children’s textile manufacturing towns<sup>29</sup> and found hazardous chemicals - nicknamed “Little Monsters” - in the wastewater as well as in the clothes that were made there.<sup>30</sup>

### Building momentum - from sportswear, to fashion, to luxury, to suppliers, to retailers, to outdoor wear

Greenpeace then expanded its product investigations in an extensive survey of garments from the fashion industry sold in 29 countries and regions worldwide, finding a wider range of hazardous chemicals including phthalates and cancer causing amines as well as the nonylphenols found previously.<sup>31</sup> Further investigations showed that the hazardous chemical problem was endemic across several clothing sectors, by testing children’s clothes made for luxury brands,<sup>32</sup> the branded sportswear made for the 2014 World Cup,<sup>33</sup> clothes made for discount retailers in Europe<sup>34</sup> and the outdoor sector, focussing on its use of PFCs for waterproofing.<sup>35</sup>

GAP was not the only company to refuse to change its position in spite of huge public pressure; most of the luxury brands including Louis Vuitton, Versace, Dolce&Gabbana and

Oct, 2012

**Greenpeace tests outdoor clothes for PFCs**  
Our research finds environmentally damaging toxins (perfluorinated chemicals or PFCs) in all 14 tested rain jackets and pants.



© Kajsa Sjölander / Greenpeace



© Andri Tambunan / Greenpeace

### Box 4 - Indonesia

Greenpeace Indonesia launched its Detox campaign in 2011. Together with the Citarum community (and villages around the Citarum river located in West Java Province) we did an action to highlight the industrial pollution of the Citarum river, asking the government for stronger regulations. In 2012, the Indonesia team published the report “Toxics out of control”<sup>36</sup> to showcase the contribution of discharges of toxic chemicals to the pollution of the river and did a series of actions as part of the campaign. It resulted in a statement by the elected West Java Governor that the Citarum River would be drinkable by 2018. In 2013 the “Toxic Threads: Polluting Paradise”<sup>37</sup> report revealed the link between the textile industry and river pollution and the involvement of multinational brands such as GAP, which still has not committed to Detox. In 2015, Greenpeace joined forces with the Coalition Against Waste to file a lawsuit against the government to “cancel, suspend and revoke” wastewater discharge permits for three polluting textile factories. After a series of court hearings, we won the case in 2016 when the court decided in our favour and the waste water discharges became illegal. The court decision was not only confirmed, but strengthened by the High Court of State Administration of Jakarta in 2016 and the Supreme Court in 2017.<sup>38</sup> All appeals from the defendants were rejected. We continue to challenge the government to maintain tight supervision of all textile companies and river basins. In 2018 a Presidential Decree was issued creating a legal basis for the revitalization of the Citarum river, which will be a model for other polluted rivers in Indonesia.

Oct 24 2012

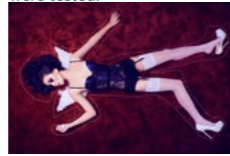
**Detox Commitment, Marks & Spencer**

British clothing giant Marks & Spencer commits to Detox by 2020 and phase out all perfluorocarbons (PFCs) by no later than July 1st 2016.

Nov 20, 2012

**Report: Toxic Threads, the big Fashion Stitch-Up**

Greenpeace International investigated 20 global fashion brands - including Armani, Levi's and Zara - as well as a wider range of hazardous chemicals. 141 items of clothing in 29 countries were tested.



© Lance Lee / Greenpeace

Dior which were highlighted in product testing stubbornly denied their responsibility for hazardous chemical pollution in their supply chain and their products. But the companies supplying these luxury brands with their clothing did not respond the same way. In 2013 Canepa, a major Italian supplier to the luxury industry stepped up to make the most ambitious Detox commitment yet. In the years to follow they would be joined by no less than 34 companies in the Prato and other textile districts in Italy (see Box 7).

In 2013 the campaign shifted its main focus to the Outdoor sector and its use of per- and polyfluorinated chemicals – PFCs – as water repellents; these are hazardous chemicals which can also be transported to remote areas through the air.<sup>39</sup> Greenpeace's campaign to clean up the outdoor sector was designed and run with the help of outdoor enthusiasts, people who felt strongly that remote and pristine natural habitats should be free from PFC contamination, a problem revealed by sample results from several expeditions to remote mountainous areas.<sup>40</sup> The campaign also found PFCs from outdoor clothes much closer to home, in the air of retail stores selling these products.<sup>41</sup> Three outdoor brands signed up to Detox; in parallel there was a big increase in the availability of new PFC-free waterproofing technologies which were adopted by many outdoor brands. These changes in the market, combined with people power, in the form of hundreds of thousands of outdoor enthusiasts calling on outdoor brands to act, put pressure on Gore-Tex – the most well-known supplier of outdoor waterproofing technology – to change their position and move away from hazardous PFC technology by 2023.<sup>42</sup>

**Box 5 - Italy**

In 2017, as a follow up to the Detox Outdoor project, Greenpeace Italy started working on a major scandal related to drinking water contamination with PFCs in the Veneto Region in Northeast Italy. A huge area of around 200 Km2, with over 350,000 inhabitants, had been polluted by these hazardous chemicals as a result of the direct discharge of these chemicals from the chemical and tannery industries. People's blood had been contaminated with PFCs, mainly through contaminated drinking water; as of the beginning of 2017, no solutions had been identified by authorities to solve this problem. Greenpeace Italy published two reports: one on wastewater discharges<sup>43</sup> and the other one on drinking water contamination in schools.<sup>44</sup> To push the regional government to stop discharges of PFCs by the industry, we launched a petition that was signed by 70,000 people. Together with local residents, we took our protest to the authorities by boat when we showed up in front of the palace of the Regional Government in Venice. As a result of the campaign the region has now enforced low limits for these chemicals in drinking water, setting a regulatory precedent for Italy. Finally, in March 2018, the national Government recognized the PFC pollution in the Veneto Region as a state of emergency.



© Greenpeace



© Greenpeace

Nov 26, 2012

### Mannequin Revolt in 80 cities in 20 countries

Activists stage street theatre and mannequin walkouts to demand Zara commits to Detox



© Steven Vigar / Greenpeace

### On the road - destination 2020

Today - after seven years of the “Detox My Fashion” campaign, we have secured global commitments to Detox from eighty international brands, retailers and suppliers. The most significant of these was when twenty companies (suppliers of some of the biggest fashion and luxury brands in the world) from Italy’s Prato textile district simultaneously announced their commitment to Detox under the umbrella and coordination of their affiliate association, the Confindustria Toscana Nord (CTN) (see Box 7 **Italian Detox Consortium (CID)**), planting the seeds of a suppliers “textile revolution”.

The campaign has also had political impacts, triggering policy changes such as China’s enforcement of stricter wastewater standards,<sup>45</sup> the EU ban on the import of textiles containing the hazardous chemicals nonylphenol ethoxylates (NPEs) that should enter into force in 2020,<sup>46</sup> and a proposed EU regulation on cancer causing substances in textiles.<sup>47</sup>

As time went on, brands and companies making commitments increased their level of ambition and early adopters such as Puma and adidas also agreed to up their game in response. Early on, Greenpeace set a high level of ambition by requiring brands to ensure publication of the results of wastewater testing by their suppliers, contributing to a transparency revolution. In 2014 we also added a commitment to act on the wasteful and material-intensive model of clothing and fashion, to address the threat to achieving Detox goals posed by increasing

Nov 29, 2012

### Detox Commitment, Zara

Inditex, the parent company of Zara and the world’s largest clothing retailer, commits to go toxic-free following nine days of intense public pressure.

overproduction and overconsumption and take on challenges beyond hazardous chemicals (see Section 5 Next Steps).

None of these developments would have happened without the engagement of Detox supporters and activists from around the globe, via creative protests, petitioning and advocacy, the “people power” that helped to break the silence around hazardous chemicals in the manufacture of clothing and pushed the companies to take responsibility.

Regular checks have helped companies to keep on track, with fashion brands assessed three times on the Detox Catwalk in 2013, 2015 and 2016<sup>48</sup> and retailers in 2015 and 2017.<sup>49</sup> These showed the brands making increasing progress towards the elimination of priority hazardous chemicals, backed up by transparency on wastewater testing data which was published by their suppliers on a public platform (see Box 8, **Institute for Public & Environmental Affairs (IPE)**). Some brands, such as Inditex, H&M and Benetton, the Italian suppliers and the retailer Tchibo stood out as leaders of this paradigm shift, exceeding expectations. Most other brands also made significant progress. The continued engagement of all the brands is shown by their involvement in multiple activities - from research into dyes, to participating in the ZDHC, to influencing policy.



© Lu Guang / Greenpeace



#### 4. Survey of the Detox companies

This is the first time that Greenpeace has assembled the collective achievements of Detox Committed brands and companies from all of the sectors in one place, compiled from their responses to our survey which was a questionnaire to all companies about their progress on the hazardous chemicals aspect of their commitment (see Annex 2 for the company responses in full). As we draw closer to the 2020 deadline for achieving zero discharges by 2020, we wanted to see far they have come. The table below summarises the progress that has been made on **chemicals management**, **transparency** and **substitution**, while the following pages show their response in more detail.

Brand / company	ZDHC membership	Chemicals Management			Transparency			Substitution
		Uses ZDHC MRSL basic package	ZDHC MRSL + ADDITIONS	INDIVIDUAL MRSL	wastewater data published < 50%	wastewater data published 50-80%	wastewater data published >80%	publication of suppliers lists
Fashion, sportswear and luxury brands								
	●		●			●	Tier 1-2 -3	>99%
	●			●		●	Tier 1-2-3	99.75%
<b>BURBERRY</b>	●		●				No Disclosure	99%
	●	●				●	Tier 1-2-3	100%
<b>ESPRIT</b>	●	●					Tier 1-2-3 expanding to viscose	100%
	●			●			Tier 1-2-3 by end 2018	100%
<b>G-STAR</b>	●	●				●	Tier 1-2-3	100%
	●			●			Tier 1-2-3 expanding to viscose	100%
<b>INDITEX</b>	●			●			Tier 1-2-3	100%
	●		●			●	Tier 1-2-3 since May 2018	100%

Brand / company	ZDHC membership	Chemicals Management			Transparency			Substitution
		Uses ZDHC MRSL basic package	ZDHC MRSL + ADDITIONS	INDIVIDUAL MRSL	wastewater data published < 50%	wastewater data published 50-80%	wastewater data published >80%	publication of suppliers lists
Fashion, sportswear and luxury brands (continued)								
Limited brands	●		●			●	Tier 1 only	100%
<b>LI-NING</b>	●	●				●	No Disclosure	95%
<b>MANGO</b>				●			Tier 1 + integrated wet units by end 2018 and tier 2-3 in 2019	100%
M&S	●		●				Tier 1-2-3 from 2019	100%
						●	Tier 1-2-3	100%
	●	●				●	Tier 1 & 2	>93%
PRIMARK*	●		●			●	Tier 1 considering tier 2 but no timeline yet	100%
	●	●				●	Tier 1-2-3	>99%
VALENTINO				●		●	Tier 1-2-3	100%

		Chemicals Management			Transparency			Substitution	
Brand / company	ZDHC membership	Uses ZDHC MRSL basic package	ZDHC MRSL + ADDITIONS	INDIVIDUAL MRSL	wastewater data published < 50%	wastewater data published 50-80%	wastewater data published >80%	publication of suppliers lists	PFC-free products
Retailers									
				●			●	Tier 1 some integrated wet units, considering tier 2-3, no timeline yet	100%
				●			●	Tier 1-2-3 (limited to strategic suppliers)	100%
				●		●		Tier 2-3 wet units, tier1 from July 2018 All prducts except some zippers	
				●		●		Tier 1 + some integrated wet units	100%
				●			●	Tier 1-2-3	100%
	●		●		●			Tier 2-3 wet units, tier1 from July 2018	100%
	●		●				●	Tier 1 integrated wet units, more tier2 from august 2018	100%

		Chemicals Management			Transparency			Substitution	
Brand / company	ZDHC membership	Uses ZDHC MRSL basic package	ZDHC MRSL + ADDITIONS	INDIVIDUAL MRSL	wastewater data published < 50%	wastewater data published 50-80%	wastewater data published >80%	publication of suppliers lists	PFC-free products
Outdoor brands									
				●	●			Tier 1 and integrated wet units	100%
				●	●			Tier 1-2-3	100%
				●			●	Tier 1-2-3	100% apparel, all products by 2020. <sup>50</sup>
Suppliers									
				●			●	n/a	100%
				●			●	n/a	100%



Dec 04, 2012

#### Detox Commitment, Mango and ESPRIT

Both brands commit to Detox and making their facilities disclose water discharge information – a victory for people living forced to share their water with industry.

Dec 05, 2012

#### Report - Toxic Threads, Under Wraps. Exposing the textile industry's role in polluting Mexico's rivers

Investigation reveals textile manufacturing facilities in Mexico discharge a wide range of toxic chemicals into rivers in Mexico to an extent that people suffer from water scarcity.

Dec 07, 2012

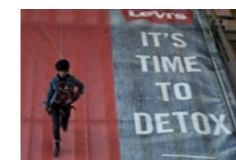
#### Gael Garcia Bernal supports the Detox campaign



© Guadalupe Szymanski / Greenpeace

Dec 07, 2012

#### Vertical catwalk in Copenhagen to remind Levi's its time to Detox

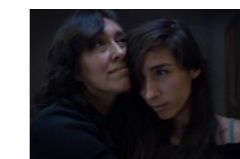


© Will Rose / Greenpeace

Dec 10, 2012

#### Release of Documentary "Un Salto de Vida" (Life-Falls)

The film documents how a community living at Mexican river Rio Santiago fights the industrial pollution from hundreds of factories that supply goods to international brands.



© Marizilda Cruppe / Greenpeace

Dec 11, 2012

#### People power calling on Levi's

From Taipei to Toronto, volunteers and activists join forces with street artists to demand Levi's make fashion without pollution

## Findings from our survey of companies

### Chemical Management

#### MRSL

A Manufacturing Restricted Substances List (MRSL) is the core element of the Detox roadmap, developed and implemented by all Detox committed brands and companies. It sets a black list of chemicals, starting with the 11 Detox priority hazardous chemical groups (see Box 1). The Detox commitment requires that these are banned at all stages of production, with specific reporting limits used as target levels. To implement, brands check manufacturing facilities for compliance with the reporting limits, by testing the wastewater before treatment and residual sludge from the wastewater treatment plant.

A MRSL is a binding and evolving document that translates the ambition of a brand's Detox roadmap in terms of its scope, (at least the 11 Detox priority groups, expanding to all textile-related hazardous chemicals<sup>51</sup>) and its limits, that should reflect the lowest technically achievable levels (technical zero).

Current examples of best practice MRSLs, both for scope and limits, are:

- Detox suppliers in Europe, CID (Italian Detox Consortium) in Italy and Utenos in Lithuania.
- Among the big fashion brands/companies, H&M, Inditex, Benetton and Fast Retailing are leading the pack, while Tchibo leads among retailers.
- The Detox To Zero audit commercialised by OEKO-TEX also offers some of the most ambitious reporting limits to check on Detox compliance status on wastewater.

ZDHC, whose membership includes 18 Detox brands, set a common MRSL in 2015 (version 1.1) that is due to be revised soon. Wastewater guidelines were added in 2017 which set limits for MRSL chemicals in wastewater (limits in sludge are expected in the next update). In response to our survey, the companies report:

- One third (six brands) of the eighteen Detox brands that are ZDHC members are using the MRSL/Wastewater guidelines ZDHC package as unique reference in their Detox implementation.
- 44% (eight ZDHC brands) have slightly expanded the scope with additional substances while the four big fashion brands mentioned above have their own individual MRSL.
- Thirteen other Detox brands and companies, which are not ZDHC members, also have their own MRSLs, which are mostly more ambitious than ZDHC.

This calls for a significant update of the ZDHC MRSL in order to reflect best practice and account for the practical experience among its membership and beyond (eg: CID).

In the near future, seeking some alignment on a common list could be practical and strategic, in order to increase the collective leverage on the supply chain, chemicals suppliers, laboratories and the rest of clothing and textiles industry. ZDHC has a logical role to play in this respect, provided it sets up a system which does not hold back leaders from pursuing best practice, while others are encouraged to participate and make progress.

### Supply chain management

Detox implementation has required an in-depth collaboration between brands and their suppliers, especially in wet processing facilities where the majority of hazardous chemicals are used. All brands report capacity building, either through their own resources or ZDHC, by organising training in chemical and environmental management and specific training on MRSL and wastewater testing. Other common practices include: third-party audits and MRSL compliance assessments of suppliers; providing technical assistance to perform chemical inventories and/or formulations testing; wastewater testing and root-cause analysis followed by corrective actions if contaminants are found; evaluating and rating suppliers on their progress; while individual brands and/or ZDHC provide suppliers with positive lists of chemical formulations (checked against compliance with their MRSL).

### Transparency

Greater openness throughout the industry is the key to changing the dynamics and driving improvements. The Detox campaign focussed on the publication of wastewater testing data by suppliers to reveal the discharge of hazardous chemicals and track progress over time, and the inclusion of wet processing suppliers in suppliers lists.

### Wastewater testing and reporting

A very positive development is that almost all Detox committed brands are now implementing regular wastewater testing (best practice is twice a year) and publicly disclosing the results

on the Detox IPE platform or their own website.

- 99% are performing this across at least 50% of their wet processing supply chain (in volume of operation)
- 62% are reporting data for more than 80% of their wet processing supply chain.

ZDHC is about to launch its own reporting platform and is expected to share data from Chinese suppliers with IPE. We encourage ZDHC to ensure that this new platform will guarantee unlimited public access to this data including identification of the supply facility and the ordering brand. Almost all ZDHC/Detox brands expressed their full support for this, subject to a legal understanding on the ownership of data between the brand and the tested supplier.

### Advances on disclosure of suppliers lists

The disclosure of suppliers lists to include wet processing (typically washing and dyeing) suppliers lower down the supply chain (usually tier 2/tier 3) has become best practice among Detox brands.

- 72% of brands either already publish this extended list or have committed to publish within a specified timeline, a clear outcome of our Detox campaign which is focussed on chemicals management in wet processing facilities which are typically in tier 2 or 3.
- Recent announcements from US brands are from; Levis, which published its extended list on 1st of May and Nike which added tier 2 suppliers to its interactive map in June.





Dec 13, 2012

**Detox Commitment, Levi Strauss & Co**

The world's biggest denim brand commits to go toxic-free, following demands from hundreds of thousands of people that Levi's "Go Forth and Detox".

Jan 09, 2013

**Detox Commitment, Uniqlo**

Fast Retailing, the company behind Uniqlo, Japan's leading international casual wear brand begins the year with its Detox commitment.

Jan 16, 2013

**Detox Commitment, Benetton**

The Benetton Group, which owns brands such as Sisley, Playlife and United Colors of Benetton, commits to Detox.

Jan 22, 2013

**Detox Commitment, Limited Brands**

The owner of iconic underwear labels Victoria's Secret and La Senza bows to public pressure and commits to Detox.

Jan 31, 2013

**Detox Commitment, G-Star**

After ten months of activities and behind-the-scenes haggling, G-Star commits to Detox.

Feb 07, 2013

**Detox Commitment, Valentino**

Luxury brand Valentino proves 'Green' is the new 'Black' and commits to Detox

The Spanish brand Mango has shared its disclosure schedule for 2018-2019.

- Another 21% are disclosing only their direct suppliers (tier 1) including some wet processing units when those are vertically integrated.
- Four Detox brands (adidas, Esprit, Inditex and Puma) are also reporting their suppliers and data on the IPE brand supply chain map (see Box 8: **Institute of Public & Environmental Affairs**) for their Chinese suppliers and intend to expand this approach to viscose production (see Box 11: **Changing Markets'** roadmap to sustainable viscose).

**Challenges - disclosure of suppliers lists**

- Many brands are only starting to recognize the need to establish long-term relationships with tier 2 and tier 3 suppliers in order to be able to implement Detox. While disclosing suppliers lists is already a well established practice for many brands, as a result of dialogue with unions and human rights groups, the inclusion of tier 2 or 3 is still a recent development which recognises the importance of transparency for establishing long-term relationships with suppliers and implementing effective social responsibility across their value chain.
- There is still no standardized definition of the scope covered by each tier; however, some brands e.g. Esprit are pushing for this to happen; ZDHC could well be the place where this could be clarified in the near future.

**Substitution**

**PFCs**

The challenge of eliminating PFCs varies according to brand type. They are most widely used by outdoor brands for their water-repellency in waterproof coatings and membranes, as well as for some sportswear products. They are less important for the fashion industry. Nevertheless, all brands have made significant progress in eliminating PFCs and substituting them where necessary.

- 72% report having achieved their complete elimination from products.
- Despite a delay meeting its original plan, Fast Retailing reports that it has finally achieved its target.
- The remaining 28% are making good progress towards elimination.
- Benetton reports some remaining problems in a small fraction of its products (0.25% sales) as does Burberry (1%).
- Outdoor brand Vaude continues to phase out PFCs by product type, up to 2020.
- Nike has now set 2021 as their PFC-free horizon, while Li-Ning does not yet have a timeline for the complete elimination of PFCs.

Challenges include:

To get there, some brands (eg. Levi's), had to re-evaluate and eventually design out the

need for oil/water/stain-repellent functionality, make sacrifices on the level of performance (eg. reported by Prato suppliers), or investigate unexpected uses (eg. adidas found PFCs in synthetic leather).

- Sportswear brands (adidas, Puma, Nike) are still struggling to replace PFCs for some "high-performance" applications.
- Despite this progress, most brands still report the detection of low levels of contamination in wastewater discharges, which mostly seem to be related to cross-contamination as a result of their continued use by suppliers that are also manufacturing for non-Detox brands. To avoid this problem, brands are seeking greater leverage through collective action (eg. ZDHC), by sharing suppliers with other Detox brands.

**APEOs**

All brands are actively working on the elimination of APs/APEs. This chemical group was the first target of the campaign yet it is proving the most difficult challenge. For the vast majority of brands, ensuring their absence in products requires constant monitoring while achieving zero discharges in supplier facilities is still a real challenge.

There are three explanation for this:

- the pollution of incoming water,
- potential cross-contamination from non-Detox production lines using the same factory

- and the pervasive use of APs in input formulations (eg. detergents, dyestuff) or as process and maintenance chemicals (eg. knitting machine oil, cleaning), with little transparent and reliable information from chemical suppliers, putting the burden of testing compliance onto their clients in the brands' supply chains.

Their presence is also reported in recycled materials that were processed before their ban in clothing products in EU. A lot of effort has been made through setting up positive lists or scanning chemical formulations against compliance. It's worth noting that EU-based suppliers such as Utenos or CID (Prato and Como manufacturers) seem to have tighter control on both ends of the production chain. Those using more ambitious reporting limits for chemical inputs, for example CID have revealed that very low levels of APEs in these inputs are a potential source of contamination, showing the need for further reductions of hazardous substances in chemical formulations.

**Other substances**

The substitution of PFCs, APEOs or phthalates is now well-documented by Detox brands that have published many case-studies, either on their own websites (for details see Annex 2) and/or on the www.subsport.eu portal, including performance and hazard assessment of alternatives that are available for the rest of the industry. This task of providing a platform for case studies on alternatives is included in the mission statement of the **European Chemicals Agency** (ECHA), set up

Feb 13, 2013

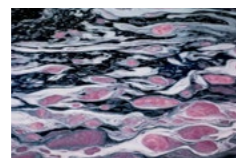
**Detox Commitment, Coop**

More Detox goodness! In the battle of Swiss retail giants Coop and Migros, Coop has come out on top with a concrete commitment to Detox.

April 17, 2013

**Report - Toxic Threads: Polluting Paradise**

New investigation reveals how big brands like GAP Inc. are in business with polluting suppliers in Indonesia, leading to major water pollution.



© Andri Tambunan / Greenpeace

Sep 09, 2013

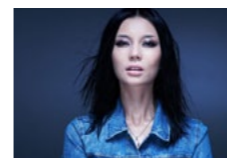
**Detox Commitment, Canepa**

High-end Italian textile manufacturer Canepa becomes the first supplier worldwide to make a Detox Commitment - a clear message to luxury brands that toxic-free fashion is there to stay.

Oct 24, 2013

**People Power**

Detox video about two years of campaigning for toxic-free fashion reaches 750.000 views in one month



© Greenpeace

Oct 31, 2013

**Greenpeace launches Detox Catwalk**

For the first time, Greenpeace assesses the progress made by Detox brands. Adidas, Nike and Li-Ning are revealed as greenwashers, while leaders like H&M, Uniqlo and Mango prove themselves as Detox trendsetters.

Dec 02, 2013

**Taiwanese legislation passed**

After negotiations with a coalition of NGOs including Greenpeace East Asia, Taiwan passes the Taiwan Toxic Chemical Substances Control Act (TW-TSCA), a landmark for chemical management in the country.

to implement the REACH regulation; however, it is unfortunate that, to date, ECHA has made no progress.

There are examples of other substitution efforts, beyond these three chemical groups, notably on sourcing water-based polyurethane free of the hazardous NN-DMF solvent, cleaning-up dyestuff from other Detox priority chemicals (eg. chlorophenols, heavy metals, arylamines), reducing formaldehyde or solvent (VOC) emissions, moving away from chromium-tanned leather or eliminating potassium permanganate (denim bleaching). Heavy metals and perchlorethylene (dry cleaning) are reported to be some of the challenges that still lie ahead.

**Challenges**

**Harmonisation (MRSL, limits, framework, priorities, etc.):**

**Detox committed companies:** The majority of Detox companies call for the harmonisation of tools, methods, targets and priorities, in particular raising the difficulties posed by the variety of MRSLs across brands, in terms of scope and reporting limits. While many ZDHC members prefer to align on ZDHC's MRSL and Wastewater guidelines, some companies, including ZDHC members, have more ambitious MRSLs and are already implementing targets or product specifications that should not be challenged downward.

**Greenpeace response:** Practically, we agree that a common framework would

help implementation and increase leverage on the supply chain and the chemical formulators. It would also help establish a standard across the clothing industry. However, alignment needs to be built upon the best practices which are proven to be achievable. Aligning on the lowest common denominator would undermine this best practice. The current versions of the ZDHC Wastewater guidelines and MRSL can be significantly improved in terms of reporting limits. A way forward could be a common yet differentiated approach where ZDHC sets a minimum standard baseline for new or (work-in-progress) members but provides a mechanism that ensures continued progress towards higher levels of ambition.

**Supply chain management - capacity building**

**Detox committed companies:** The biggest challenge for all Detox committed companies remains the complexity of their global supply chain and all of them focus their efforts in supporting suppliers on many aspects, primarily on improving or too often setting the basic requirements of precautionary chemical management (see Box 1). Capacity building is the main priority with brands facing lack of on-site awareness and expertise increased by a high turnover of staff or upstream production units, limited availability of third-party experts or consultants, and of specific academic training. This situation differs from region to region but is described as critical in some countries (Cambodia, Myanmar). Laboratory services and capabilities are also limited while testing costs

remain high and suppliers are reluctant to invest their limited resources in monitoring or chemical management training. Brands admit that they still need to increase their knowledge of the different tiers of their supply chain, to get further involvement, beyond core suppliers and that they are only starting to address the level of fibre production (such as viscose - see Box 11: Changing Markets). Some brands suggest that "Detox" responsibilities should be distributed across the supply chain arguing they have little access or leverage on the early stages such as fibre producers.

**Greenpeace response:** It is the very purpose of our campaign to level the playing field across textile manufacturing countries to global best practice on environmental standards (eg. EU). Preventive action, precautionary approach and transparency are keys to achieving this transformation; they have a significant immediate cost but a much greater long-term benefit. As order-givers and the main beneficiaries of environmental and social double standards, brands must take the primary responsibility for this, enabling other players to also act and implement.

**Alternatives**

**Detox committed companies:** Many brands report knowledge and information gaps about safer alternatives, which make it difficult to avoid regrettable substitutions. They also point out their higher cost, lower performance or lack of availability in all markets and sourcing regions. Most of them call for a deeper involvement (through ECHA) into funding EU research, supporting companies R&D investments, "lowering the boundaries" for marketing green innovation and developing green chemistry programmes. They want to see chemical suppliers more involved within the Detox roadmap and feed positive lists of formulations that comply with their MRSL requirements.

**Greenpeace response:** Alternatives should indeed be screened against hazards to avoid bad substitution (See Box 10: Clean Production Action). Costs reduce as demand grows; public procurement policies and regional/national incentives could help a lot. To date, ECHA has failed to provide the expertise and services to foster safe substitution, hence the need for NGO initiatives such as Subsport or MarketPlace (see Box 9: ChemSec). Although green chemistry is blooming, it does not yet have the systemic support it needs in the EU.

Jan 14, 2014

**Report - A little Story About the Monsters in Your Closet**

Greenpeace East Asia releases a report revealing the toxic chemicals in childrens clothing made by 12 major brands like Burberry, Adidas and Primark

Jan 21, 2014

**People Power: Burberry**

Supporters take to Burberry stores from Beijing to Mexico to reveal the unwanted toxic "little monsters" in childrens clothing



© Yudhi Mahatma / Greenpeace

**Transparency/traceability of chemical supply**

**Detox committed companies:** The majority of brands point out the lack of transparency from chemical suppliers, especially but not exclusively from small local players. Traceability of chemicals is a huge challenge and safety data sheets are inadequate or not well informed. Despite industry collaboration on setting positive lists, there are also challenges around the presence of unintentionally added substances and impurities, detected by those with the most ambitious reporting limits in their MRSLs (Box 7: CID). The level of impurities in chemical formulations is reported to vary over time and creates an additional burden of control that falls on the shoulders of clothing brands and suppliers.

**Greenpeace response:** One of the aims of the Detox campaign was to reveal the lack of transparency on chemical safety information and the problem of contamination in chemical formulas. Some NGOs and unions lobbied unsuccessfully for REACH to include these requirements during its adoption process. As a result, the use of hazardous chemicals continues to undermine occupational and environmental safety and ultimately everyone's health and right-to-know, while companies implementing Detox continue to face these additional challenges - this will have to change. In the meantime, we expect and encourage the textile industry to break the status-quo and engage chemical manufacturers in their efforts to Detox.

**Lack of policy support, local regulations and enforcement**

**Detox committed companies:** There is a shared acknowledgement of the lack of engagement and support from policy-makers, especially in major manufacturing countries with little environmental regulation and poor law enforcement. Some see, for example, that the complete elimination of APEOs will only be possible once China has adopted a national ban. The lack of international harmonisation on chemical management rules and basic training is also mentioned.

**Greenpeace response:** See Recommendations for our policy demands.

**Scale-up and leverage**

**Detox committed companies:** Almost all Detox companies call for wider endorsement by the textile industry and beyond of the Detox objectives. They report difficulties in achieving a clean factory approach without other customers pushing the same agenda on the elimination of hazardous chemicals, with continued risks of cross-contamination. Applying enough leverage on suppliers is even more difficult for smaller brands. Identified priorities would be the endorsement of other major fashion brands and sectors of the textile industry such as home textiles and textiles for the automotive sector. Some brands also call for an extension of efforts, including covering a wider geographical area (Americas/Australia), scrutinising air emissions and reaching deeper tiers of the production chain (fibre production) as well as planning beyond 2020.

Jan 28, 2014

**Detox Commitment, Burberry**

Following two weeks of public pressure online and offline the British brand sets a new trend for the luxury sector and commits to Detox.

Feb 10, 2014

**Detox Commitment, Primark**

Primark becomes the twentieth major clothing company to commit to Detox

Feb 17, 2014

**Report: A Little Story about a Fashionable Lie.**

Hazardous chemicals are found in luxury branded clothing for children. Brands include Louis Vuitton, Versace, Dolce & Gabbana and Dior.



© Andrea Guermani / Greenpeace

Feb 19, 2014  
**Greenpeace activists open Milan Fashion Week with a call to toxic-free fashion**

Feb 19, 2014  
**People Power, calling on Versace, Louis Vuitton and Dolce&Gabbana**



© Francesco Alesi / Greenpeace

March 07, 2014  
**People Power, calling on GAP**  
 In Taiwan, Greenpeace volunteers welcome GAP's first store in Taiwan



© Greenpeace / Up Against the Wall

April 24, 2014  
**People Power, Fashion Revolution**  
 Greenpeace joins Fashion Revolution Day to mark the one year anniversary of the tragic Rana Plaza factory collapse

May 20, 2014  
**Report, A Red Card for sportswear brands. Hazardous chemicals found in World Cup merchandise.**  
 Major football brands adidas, Nike and Puma are playing dirty. Testing reveals a range of hazardous chemicals in boots, gloves and shirts made by the brands in the lead up to the 2014 World Cup. Greenpeace calls on these brands to keep the game beautiful and stop using hazardous chemicals.

May 31, 2014  
**People Power, calling on adidas**  
 Activists call on football world cup sponsor Adidas to keep hazardous chemicals out of football clothes



© Iwan Kurniawan / Greenpeace



© Francesco Alesi / Greenpeace

**Greenpeace response:** We fully agree and support these suggestions. We believe industry organisations and policy-makers are best positioned to build from the critical mass already achieved by the Detox campaign. The *Global Fashion Agenda*<sup>52</sup> should clarify that it supports the ambition of Detox best practices, using the ZDHC roadmap as a minimum baseline. Building on the Detox brands achievements, policy-makers now have the opportunity and the duty to level the playing field to reward best practice across the textile industry, by all possible means.

#### Specific issues

**Detox committed companies:** Some brands report facing specific technical challenges such as the elimination of some of the 11 priority groups (heavy metals, perchloroethylene, flame retardants, some applications of PFCs such as waterproof zippers) or the handling and disposal of sludge from water treatment plants. Those intending to close the loop mention the identification of mature recycling technologies, the contamination of secondary materials that don't yet reflect the progress on hazardous chemical elimination and the replacement of synthetics with recycled or natural materials. One company advocates the adoption of a common tier terminology.

#### Brands policy recommendations

We have asked Detox committed companies to share with us which voluntary or regulatory developments they thought would be needed.

- Brands widely mention the adoption of

national laws in manufacturing countries on wastewater discharges that would reflect and secure the levels set by ZDHC wastewater guidelines. A ban on APEs in China is deemed necessary while an increase in law enforcement capacity is called for. In addition, one brand calls for embedding Detox best practices in national procurement policies, a measure also supported by IPE (see Box 8).

- Further developments of voluntary programmes are equally supported by brands: they see organisations such as IPE, ZDHC, Sustainable Apparel Coalition (SAC) or the Chinese CNTAC as drivers for collaboration and collective progress, as well as involvement in non-mandatory institutional schemes such as the German Partnership for Textiles, US EPA Safer Choice or the OECD Due Diligence Guidelines.
- Additions to EU REACH are also suggested by many brands, which call for ECHA to be transformed into an innovation agency, once the registration phase is over, that would speed up innovation and the marketing of alternatives; brands also support more stringent limits for hazardous chemicals in products sold, manufactured or imported in the EU, and a review of obsolete laws which favour the continued and unnecessary use of some hazardous substances, such as flame retardants. They also see the EU championing a regulatory framework on chemical formulations, standardizing assessment and testing, enforcing compliance with limits set to level the playing field in the industry.

June 4, 2014

**People Power, calling on adidas**

Hashtag hijack on Adidas

June 11, 2014

**Detox Commitment update, adidas**

The official sponsor of the Worldcup 2014 agrees to stop greenwashing and moves back onside towards meeting its Detox commitment.

Sep 22, 2014

**Detox Commitment, Italy, 6 textile companies, including Miroglio**

Six of Italy's biggest textile companies, responsible for the production of 70 million garments annually, commit to eliminating hazardous chemicals. They are suppliers of some of the biggest fashion and luxury brands.

- Several companies express their wish for a system that rewards their efforts and achievements on good chemical management across the supply chain, R&D and adoption of safer alternatives – this points to some kind of modulated Extended Producer Responsibility<sup>53</sup> regime, although it was not expressed in these terms.
- Last but not least, many brands describe bits and pieces of a global regulatory framework, which would set all kinds of standards (from chemical management training to environmental/social reporting), clarify requirements from all parties and stimulate cross-industry collaborations. On top of that, they consider that the EU REACH regulation should set the basis for a global chemical regulation. For all Greenpeace's recommendations see page 51.

## 5. A new landscape

The message of the Detox campaign - backed by public support and concern about pollution of rivers and impacts on people's health - together with the progress made by Detox companies, has created a sea change in the way that chemicals are managed in the textiles industry. Firstly there has been a shift in focus, away from only addressing the contents of the final product to also include what happens at the level of the supply chain, particularly wet processing, where the highest environmental impacts take place.

This shift has also happened in parallel with a growing awareness of working conditions and labour rights, in particular following the Rana Plaza disaster in Bangladesh in April 2013. The non-profit group **Fashion Revolution** was set up in response to this to create "radical, revolutionary change" in the fashion industry, with a major focus on transparency.<sup>54</sup>



Oct 23, 2014

#### Report - Dirty Discount Supermarkets: Dangerous Chemicals in Supermarket Clothing.

Greenpeace Germany releases a report revealing how major supermarkets continue to sell large amounts of cheap goods tainted with chemical contamination. The report shines the spotlight on big names including Aldi and Lidl in Germany, Hofer and Interspar in Austria to Migros in Switzerland.

The recent transparency revolution, where increasing numbers of brands are disclosing their suppliers lists, has also been spurred on by ethical concerns. Disclosing suppliers further down the supply chain tiers to include wet processing such as dyeing, as Greenpeace has been calling for, is now becoming the new standard. In contrast, when Greenpeace first asked for transparency of wastewater data as a key part of the Detox Commitment, it was met with resistance. Brands that committed early on in the campaign were reluctant to guarantee this right to know. Yet (almost) all of the brands that ultimately made this commitment went on to ensure that their suppliers regularly publish their Detox wastewater data on a public database (see Box 8 IPE). Now, ignorance can no longer be an excuse for inaction: by making hazardous chemicals in effluent visible and tracking improvements over time, the implementation of the roadmap towards zero is verifiable.

Implementing Detox has also required a precautionary and hazard based approach to chemicals management. This is the most obvious and pragmatic solution to the complexities of the hazardous chemical multiverse: instead of banning individual chemicals, one at a time, and spending years making risk assessments before taking action, it makes sense to use safer substitutes without delay. Checking a chemical's hazardous properties is the key to finding safer substitutes and avoiding the costly mistake of using substances within the same chemical group, with similar properties, as alternatives (see Box 9 ChemSec). This familiar story, where unfortunate substitutes result in similar health and environmental problems, has been repeated recently in the outdoor sector, with some brands

## Box 6 - ZDHC (Zero Discharge of Hazardous Chemicals)

**About ZDHC:** The ZDHC Roadmap to Zero Programme is an industry collaboration of major fashion brands and retailers, value chain affiliates and associates, working together to eliminate and substitute hazardous chemicals from the global textile, apparel, leather and footwear value chain. ZDHC's mission is to enable these industries to implement chemical management best practices and advance towards zero discharge of hazardous chemicals by collaborative engagement, standard setting, implementation and innovation.<sup>55</sup>

**What we do:** The cornerstone of ZDHC's approach is the Manufacturing Restricted Substances List (ZDHC MRSL), used as the basis of its toolkit<sup>56</sup> including the ZDHC **Gateway – Chemical Module** for safer alternative chemical formulations that conform to ZDHC MRSL, the **LeaderProgramme** to measure and improve implementation performance and the ZDHC **Gateway – Wastewater Module**, which discloses verified wastewater test results publicly. ZDHC's Academy offers certified training and ZDHC's Implementation-HUB helps organizations to find accredited experts for support on implementation challenges.

**Impact of Detox campaign:** Since the Detox campaign and over the past 5-7 years ZDHC has observed a paradigm shift in the industry on chemicals' management. The industry now addresses chemicals management in a holistic way by controlling the use of hazardous substances in manufacturing, beyond a product only approach (RSL).

**Challenges we see:** These include a lack of supply chain visibility and transparency; competing strategies of brands and retailers and the duplication of efforts; a lack of incentives for local/regional producers to phase out hazardous chemistry in the sector and apply innovative solutions which might cost more or need investment; and a slowing down of dynamics due to overlapping value chains where there is limited focus on chemical input management, e.g. automotive, furniture.

Sound circular approaches must ensure that hazardous chemicals are not used and circulated back into new products, by preventing certain hazardous chemicals entering the production process in the first place and ensuring that recycled materials are a major, reliable source of raw materials for the Industry.

#### Our top recommendations:

- Meaningful regulation that incentivizes local investments in environmental and social responsibility and prosecutes non-compliance at a global level.
- Effective regulatory frameworks that stimulate innovation and scalability, such as transforming ECHA into an Innovation agency after completing the REACH registration process.

Oct 29, 2014

#### Detox Commitment, Tchibo

Alongside publicly committing to transform itself into a toxic-free champion, German retailer Tchibo has agreed to start developing 'closed-loop' production - tackling the very way its products are made.

choosing to use volatile PFCs to replace the very persistent long chain/ionic PFCs, instead of opting for the less hazardous PFC free substitutes that were also on the market. The volatile PFCs break down in the atmosphere to form persistent PFCs such as PFOA, which can then be deposited in high mountains or cold regions such as the Antarctic, for example.

Progress on Detox has coincided with new tools that help to meet its objectives, some of which were created in direct response to the Detox approach. The GreenScreen approach (see Box 10 Clean Production Action) for assessing chemicals based on hazard, evolved to reduce the complexity of chemicals management. To facilitate the Detox focus on wastewater, **OEKO-TEX®** developed the new Detox to Zero audit, the first commercial tool which assesses wastewater discharges and sludge residues for the priority chemical groups identified by Greenpeace's Detox campaign, according to ambitious reporting limits.<sup>57</sup> Other promising developments in the wider sector include the evolution of the ZDHC towards a more progressive position, for example, through new wastewater guidelines which endorse the so called "safety net approach" (see Box 6 ZDHC). Many laboratories and certification standards are increasingly influenced by the improved practices resulting from Detox, for example **Bluesign®, Intertek, Bureau Veritas, NimkarTek®,** and organic fibre standards such as GOTS.

**Some of the organizations that have made a significant contribution to implementing the Detox objectives have been asked to contribute with their own perspective, in the following boxes.**

Nov 11, 2014

#### Detox Commitment update, Puma

Puma updates its commitment to Detox by integrating a plan to become 100 % PFC free as well as publish discharge data from 80 % of its global suppliers by the end of 2014

## Box 7 - Italian Detox Consortium

**About CID:** The Italian Detox Consortium (CID) was created by members of the Confindustria Toscana Nord (CTN), a group of textile manufacturing companies from the Prato District, which collectively committed to Detox in February 2016, representing different parts of the textile supply chain, such as yarn, fabric and raw materials, including chemical formulas, to dyeing, yarn or fabric finishing.<sup>58</sup>

**What we do:** The Consortium has a technical committee made up of academics and representatives from Greenpeace and promotes its achievements nationally and internationally. CID's ambition is to lead the entire Italian textile sector towards committing to Detox principles. There are currently 34 factories which are members of CID, from Prato as well as other important industrial/textile districts and the Italian fashion retailer Miroglio group.

The Consortium facilitates meetings and training with suppliers, provides practical support and has provided an Operating Manual, including tools, criteria and controls on buying raw materials and chemical products, the management of textiles, control of wastewater and the publishing of data according to transparency principles.

The Consortium (via its academic partner BuzziLab) carries out investigative surveys and research into effective, simple and low cost solutions that avoid harmful substances at different stages of manufacturing and has produced case studies on dyestuffs, spinning auxiliaries and regenerated textile products, including a Manufacturing Restricted Substances List (M-RSL) for regenerated textiles according to Detox.

**Impact of Detox Campaign:** The Detox campaign enabled greater efforts to eliminate hazardous chemicals from industrial processes in the supply chain; before 2011 we focused on residual substances in the product. The campaign also raised the need to be more transparent and to take a chemical management approach to follow up on contamination in products and chemical mixtures.

**Challenges we see:** The challenge today is the proliferation of schemes or programmes which are superficially similar to Detox but actually different, which can create unclear situations in the supply chain.

Dec 10, 2014

**Detox Commitment, Lidl**

The world's second largest discount supermarket chain Lidl commits to Detox. One of the biggest fashion retailers in Germany, this applies to over one billion euros worth of textiles every year.

Dec 18, 2014

**Detox Commitment, Rewe Group, parent company of Penny Markt.**

March 19, 2015

**Brands assessment, Detox catwalk 2.**

Greenpeace East Asia releases the second instalment of the Detox Catwalk, an online platform charting the progress made by 18 committed companies down the runway to Detox. Is your favourite fashion label a Detox Leader?

March 31, 2015

**Detox Commitment, Aldi**

Aldi, one of the top ten retailers in the world, has joined the Detox movement. The momentum towards a cleaner and more efficient model of production in the discount sector is growing.



© Greenpeace / Cris Toala Olivares

### Box 8 - The Institute of Public & Environmental Affairs

**About IPE:** The Institute of Public & Environmental Affairs (IPE) is a non-profit environmental research organization based in Beijing, China, established in 2006, which collects, collates and analyzes government and corporate environmental information. IPE's two platforms – the Blue Map website and the Blue Map app<sup>59</sup> – consolidate environmental data to serve green procurement, green finance and government environmental policy making.

**What we do:** In addition to IPE's database of over one million official environmental violation records issued by Chinese authorities, IPE has also developed a disclosure platform where facilities can publish their annual emissions data ("PRTR", or pollutant release and transfer register data), as well as their Detox testing data.

**Impact of the Detox campaign:** The Detox campaign has no doubt played a significant role by pushing for public commitments from brands. Over the past 5-7 years the industry has made tremendous improvements in transparency: firstly, brands have motivated their suppliers to voluntarily disclose their total annual wastewater discharges, as well as Detox testing data; and secondly, the disclosure of supplier lists has become the norm, with some brands disclosing sub-tier suppliers. These two elements are now linked in the Green Supply Chain Map,<sup>60</sup> jointly launched by IPE and NRDC in January 2018. Seven apparel brands currently publicly link their disclosed supplier lists to environmental data via the map, a level of transparency which sets a new standard of accountability for brands' supply chain environmental management, helping consumers to make green choices.

**Challenges we see:** Challenges include how to scale up this level of disclosure on Detox chemicals while also keeping the bigger picture in mind, such as consistent environmental compliance and pollution control for both conventional parameters as well as hazardous substances.

**Our key recommendations:** Large corporations and financial institutions should implement green procurement and green finance by requiring the disclosure of data and the setting of verifiable targets to reduce discharges (both conventional parameters and hazardous substances) as a pre-condition for procurement, credit and investment.

### Box 9 - ChemSec

**About ChemSec:** ChemSec is an independent non-profit organisation that advocates for a world free from hazardous chemicals. Through independent research, cross-border collaboration and practical tools, we are driving the development of more progressive chemicals legislation and pushing businesses towards the transition to non-toxic alternatives.<sup>61</sup>

**What we do:** Among other tools, ChemSec is known for its SIN Substitute it Now! List of hazardous chemicals proposed as candidates for banning under REACH, and its Marketplace, which is THE one-stop shop for companies looking to substitute hazardous chemicals in products and supply chains, a business-driven project which represents a new way to market safer alternatives and green chemistry solutions online.

**Impact of the Detox campaign:** The Detox campaign has significantly raised awareness and spurred concrete action; there is now a common goal and an urgency that was lacking before, although it will take a long time for the whole industry to change direction.

**Challenges we see:** Creating an industry standard, as ZDHC is trying to do, is the right approach. Unifying large brands behind a well-known minimum baseline could trickle down the global supply chain. The challenge will be to get everyone behind this baseline while increasing transparency on the contents of textile formulations. Raising awareness about safer alternatives is difficult when the information is either scattered or inaccessible for smaller companies. Finally, more common tools are needed for SMEs.

**Our key recommendations:** Without global regulation it's important that countries and regions regulate hazardous substances both in production and the final garment. Regulations will impact other regions where textiles production takes place since they need to fulfil these requirements in their exports. If some regions, such as the EU, move ahead it will be easier for others to follow, once the industry shows it can manage the regulations in place.

### Box 10 - Clean Production Action

**About Clean Production Action:** Clean Production Action is a mission driven non-profit that designs and delivers sustainable solutions for green chemicals, sustainable materials and environmentally preferable products. We help simplify the complexity of chemicals management for all stakeholders through tools, strategies, and collaborations.<sup>62</sup>

**What we do:** GreenScreen Certified™ for Textiles is a new certification standard that promotes the use of inherently safer chemicals in textile manufacturing; it incorporates the ZDHC MRSL requirements and is an accepted certification standard for ZDHC MRSL conformance. It is based on the GreenScreen® for Safer Chemicals, a globally recognized tool that identifies hazardous and safer chemicals through a rigorous benchmarking scoring system which has three levels: bronze, silver and gold.

**Impact of the Detox campaign:** The Greenpeace Detox campaign has been a game changer, with competitors collaborating on a unified approach to chemical use in the supply chain, giving them an incentive for continuous improvement through company rankings, to establish a clear MRSL and to form roadmaps.

**Challenges we see:** The challenge is now to build internal capacity for comprehensive chemicals management which includes the use of screening tools to capture a wider range of hazardous chemicals. A lack of transparency around screening tools and chemical footprint reduction goals (beyond the MRSL) is problematic, as is finding replacements for MRSL chemicals - are these regrettable substitutes? Or have they been screened and assessed?

**Our key recommendations:** Training within the sector is crucial. There is also a need for a strong incentive or 'draw' for continuous improvement, which should not rely on retailer purchasing specifications. A market driver is necessary for companies to adopt best practice and set higher goals than adoption of just the MRSL. At Clean Production Action, one of our projects is the Chemical Footprint Project<sup>63</sup> and we are beginning to see companies integrate a numeric reduction goal for their chemical footprint. It would be interesting to challenge the entire sector with a chemical footprint reduction goal for chemicals of concern in products. As a separate but related metric, companies could disclose how many GreenScreen benchmark 1 chemicals they have eliminated in their processing facilities – see recent announcement from Apple.<sup>64</sup>



July 02, 2015

**Research expedition to test PFCs in remote areas**

eight teams collect water and snow samples in remote mountain areas from Switzerland's Alps to Italian Apennines to Golden Mountains of Altai in Russia and Patagonian mountains of Torres del Paine. They find PFCs.



© Xia De Rui / Greenpeace

July 22, 2015

**Victory, NPE banned in Europe**

A huge victory for Detox supporters came out of Europe this week as all EU member states voted to ban the toxic chemical NPE from textile imports. This decision closes a trade loophole that allowed clothing containing dangerous levels of NPE to enter the EU even though the substance is banned from regional manufacturing.

Sep 09, 2015

**Report - Footprints in the Snow. Hazardous PFCs in remote locations around the globe**

New report drawing attention to a little-known and certainly unsolved problem: the global presence of invisible but very persistent and hazardous chemicals in remote mountainous regions.

Dec, 2015

**Detox Commitment, Kaufland**

Supermarket chain Kaufland with 1300 shops becomes the 33rd brand to join the Detox community. The chain also commits to increase its share of high quality clothing that last longer and is easier to recycle.

Dec 15, 2015

**Brands assessment, Retailers**

Clothes at discount stores are getting cleaner! Following up on Detox commitments, Aldi and Lidl eliminate dangerous chemicals, publish discharge data and start recycling programs.



**Box 11 - Changing Markets**

**About Changing Markets:** The Changing Markets Foundation was formed to finance and support campaigns that accelerate and scale up solutions to sustainability challenges by leveraging the power of markets.<sup>65</sup>

**What we do:** Our Dirty Fashion campaign highlighted the devastating impacts of polluting factories that manufacture viscose for some of the main high street fashion brands. Viscose manufacturing is currently reliant on heavy inputs of toxic chemicals to turn the raw material into fibre, which if not managed properly, can pose a serious threat to people and the environment around production sites. Our Roadmap towards responsible viscose and fibre manufacturing<sup>66</sup> provides a blueprint for brands to demand their suppliers move towards closed-loop production. Six Detox brands have already signed up to this roadmap.<sup>67</sup>

**Impact of Detox Campaign:** Greenpeace has been very successful in pressuring the industry to commit to phasing out the most toxic chemicals. However, even the most progressive brands have not looked at their supply chain as a whole, beyond the wet processing stage, and none have considered the management of chemicals in viscose manufacturing; only a few were willing or able to reveal their viscose suppliers. The industry still has a long way to go, both on transparency and on embracing a holistic approach to sustainability.

**Our key recommendations:** Only by mapping their supply chains and providing full transparency on the identity and performance of their suppliers, can brands and retailers identify potential issues and react to resolve them. Moreover, detoxing needs to happen throughout the whole supply chain, not just during wet-processing.

Furthermore, governments need to mandate international rules on transparency and due diligence across the entire supply chain, otherwise measures at a national level will remain too fragmented to address the full scale of the problem. Coordinated action at EU level, such as a binding legislative proposal for a due diligence system based on OECD guidelines,<sup>68</sup> would have a significant impact on the global fashion industry and could also serve as a model for other regions.



Jan 25, 2016

Report, Leaving Traces - The Hidden Hazardous Chemicals in Outdoor Gear.



© Francesco Alesi / Greenpeace

Jan, 2016

Detox Commitment, Paramo

First outdoor brand to sign Detox commitment

## 6. The bigger picture - and the next steps for Detox

The Detox campaign has set the standard for addressing hazardous chemicals in the textiles supply chain, through a combination of rigorous targets and full transparency on tracing inputs and releases of hazardous chemicals. It has triggered policy changes and a raft of new initiatives and tools that could facilitate the Detox approach across the industry. However, the progress that has been made could

be undermined if significant players fail to recognise that **the overconsumption of textiles is the larger problem that must be tackled.**

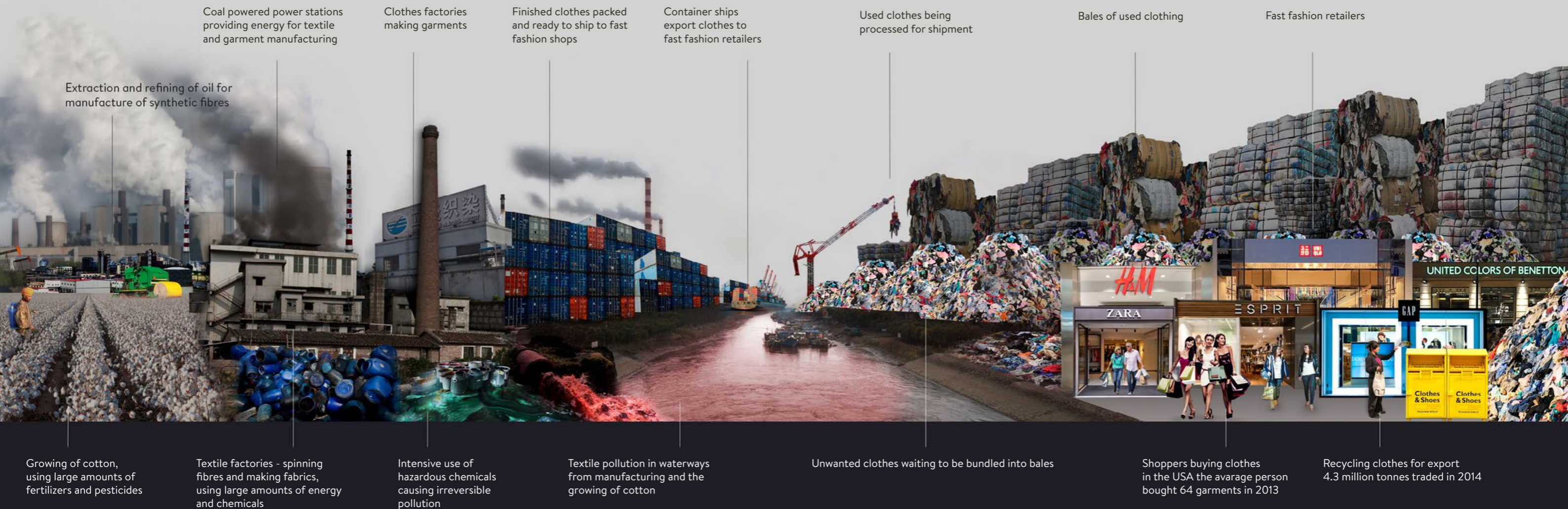
### Overproduction and acceleration

On Buy Nothing Day, November 2016, Greenpeace called **“Timeout for Fast Fashion”**, highlighting the unsustainable

growth of clothes production in recent decades, as a result of the increasingly fast turnaround of fashion trends,<sup>69</sup> with an “explosive expansion” since 2000 when the “fast fashion” phenomenon began.<sup>70</sup> Consumption of clothing is projected to rise further, from 62 million tons in 2017 to 102 million tons in 2030, an increase of 63%. Ironically, the industry itself has warned that

environmental and social pressures will intensify by 2030 **“to the point of threatening industry growth itself”**.<sup>71</sup> The growth of fast fashion has been facilitated by an increase in use of polyester, which now makes up 60% of clothing worldwide but is projected to nearly double by 2030.<sup>72</sup> This growing predominance of polyester, on its own or blended with other materials, is one of the biggest challenges

## From dirty production, to trends, to trash



Feb, 2016

#### Detox Commitments, Prato, Italy, 20 companies.

As of today, 20 companies in the Prato textile district, the oldest in Italy, have joined the Greenpeace Detox campaign. They have already made great strides to remove hazardous chemicals from their factories and they are eager to make more.

the industry must tackle, both in terms of its emissions-heavy production and the non-biodegradable waste it leaves behind. The vast majority of old clothes are thrown out with our household waste and end up in landfills or incinerators, amounting to millions of tonnes of textiles waste worldwide.<sup>73</sup>

#### Polyester - the Achilles heel of fast fashion

Polyester clothing is also polluting rivers and seas even while its being used, with just one piece of clothing releasing up to **1 million microplastic fibres** in a single wash;<sup>74</sup> pollution from microplastic fibres is one aspect of the much bigger problem of microplastics in the ocean. Furthermore, the impacts of fashion include climate change: a recent report found that apparel and footwear contribute 8% of global greenhouse gas emissions; wet processing (eg. dyeing) - which is also the focus of the Detox campaign - is the most energy intensive stage, accounting for 36% of greenhouse gas emissions from textile garments.<sup>75</sup>

#### Putting on the brakes

To call on the fashion industry to **slow down** and re-think the way it does business, Greenpeace released **“Fashion at the Crossroads”** in September 2017,<sup>76</sup> challenging the way that “circularity” is being promoted as the latest solution to the environmental problems of our wasteful society by the fashion industry and policy makers. We exposed how these problems are mostly being tackled from the downstream up, pushing short term “solutions”, such as the

July, 2016

#### Victory, Indonesian court case.

An unprecedented court ruling in Indonesia could send shock waves across the fashion world. Greenpeace Indonesia, together with community groups, filed a lawsuit against the government’s decision to continue issuing wastewater discharge permits to the three biggest textile companies... and won!

recycling of problematic plastic waste from other industries and betting against the odds that a technological fix will provide an easy option. Textile-to-textile recycling is not yet a mainstream practice and promoting the circularity myth that clothes could be “infinitely recycled”, as well as failing to acknowledge that recycling also has environmental impacts, may even be increasing guilt-free consumption.<sup>77</sup>

Instead, businesses need to stop blaming consumers for overconsumption and take responsibility for a radical transformation of the fashion industry, through slowing the flow of materials - by making better quality, more durable and more versatile clothes - and implementing long-term waste prevention solutions which would design out the waste altogether. Greenpeace’s research showed that there is a lot of innovation by a wide range of companies and organisations, both small and large, demonstrating the importance of embedding environmental considerations and solutions at the earliest possible stage of the product design and manufacturing process to enable and implement a change in practice. This need to slow down was further endorsed by the Ellen McArthur Foundation which released its “New Textiles Economy” report in November 2017.<sup>78</sup> Unfortunately while alternative business models to the linear throwaway culture already exist, they are not yet mainstream.

July, 2016

#### Brands assessment, Detox catwalk 3

Detox Catwalk 3 - Online ranking assesses the progress made by 19 Detox committed brands

#### Recommendations - Detox before closing the loop

As well as slowing down, the problem of hazardous chemicals is also key to closing the loop - by ensuring that clean materials are available for recycling. Eliminating hazardous chemicals in the manufacture of clothing is a prerequisite for high quality circularity, without which the circular dream could well become a toxic recirculation nightmare.

This is why the progress made by Detox brands and their suppliers is vital for the clothing industry to have any chance of steering itself towards a more sustainable path. In the process of eliminating hazardous chemicals it has been necessary to improve in many ways, including:

- More rigorous management of hazardous chemicals, including thorough investigations to track back through the manufacturing steps and identify the original source of hazardous chemical contamination
- Benefits for workers and local communities who are less exposed to hazardous chemicals
- Providing more security and stability to suppliers that can demonstrate best practice
- Embedding a culture of transparency for the management, use and discharge of hazardous chemicals which can influence other parts of the company’s business.

Many tools are being developed which can help to deliver on all of the above. Legislative

July, 2016

#### Report, Hidden in Plain Sight. Poly-fluorinated chemicals (PFCs) in the air of outdoor stores

July, 2016

#### Detox commitments. Vaude and Rotauf

Both manufacturers of high performance outdoor clothing commit. Rotauf is already PFC-free and Vaude pledges to eliminate all PFCs from their products by 2018.

developments generally follow more slowly and while there are some signs that this is already happening, much more is needed to level the playing field.

This is where policy makers need to step in, to integrate the Detox achievements into the legislative process, as follows:

#### 1) Embed Detox best practice in all relevant chemicals, water or textiles-related legislation

**EU:** Recognising the role that the EU has played, spearheading progressive environmental regulations, EU institutes should:

- Set an overall objective of elimination of all hazardous substances in the EU circular textile strategy to allow safe recycling, reduce the chemical footprint across the supply chain and generalise the disclosure of suppliers’ list and their environmental performance.
- Set low limits of CMRs in textiles, as close to zero as possible to reflect Detox best practice and to generate a positive impact in the manufacturing chain, not just for product safety. Follow-up with further restrictions and/or create a RoHS-equivalent for the textiles industry, including for secondary materials, to avoid the recirculation of toxics through recycling.
- Reflect Detox best practice in BATs (Best Available Technologies) and Ecodesign requirements.

Nov, 2016

#### Report, PFC Pollution Hotspots

Greenpeace identifies four pollution hotspots where chemical companies producing per- and polyfluorinated chemicals (PFCs) have contaminated the environment.

#### National legislation:

All countries where textile manufacturing takes place should adopt and enforce a comprehensive MRSL of hazardous substances to monitor, control, phase-out and report publicly about, while standard chemical management requirements (such as inventory, training, capacity) should be a condition of granting a licence to operate.

#### 2) Reward best practice and level the playing field

EPR policies are required to internalise the impacts of textile manufacturing and move towards a slow and circular business model – a fee on sales could be modulated to reward, the elimination of hazardous substances in the production chain, among other best practices.

#### 3) Structural socio-economic measures

- Make the adoption of a hazard elimination roadmap and the use of BATs a condition of fiscal and financial incentives and investments.
- Use public procurement to scale-up the availability and affordability of safer alternatives.
- National and International Development funds and Research funds should invest and support the emergence of safer chemicals and the development and adoption of closed-loop production processes.

Nov, 2016

#### Report, Timeout for Fast Fashion

On Black Friday, Greenpeace publishes a report that examines fast fashion, throwaway lifestyle and their environmental impact, emphasizing the problems of wasteful, linear production; rising use of synthetics and the myth of recycling.

#### 4) Chemical transparency and safer alternatives

Our Detox campaign has demonstrated that shifting the burden of proof onto the chemical industry has not yet been achieved. What is true for the clothing industry is likely to be experienced by all other sectors. Thus, there's a urgent need to:

- Review the content and transparency of safety, toxicity and hazard data and its circulation from chemicals manufacturers to downstream users.
- Elaborate a strategy on the reduction of hazardous contaminants (ie. un-intentional substances),
- Stimulate and speed-up the marketing of safer alternatives while developing a holistic assessment to avoid regrettable substitution or the transfer of environmental risks.

#### Conclusion

A new dynamic has been created in the way that brands relate to their suppliers by introducing rigorous chemicals management in manufacturing, a roadmap for elimination of hazardous chemicals and requiring transparency by publishing suppliers and their wastewater discharge data. These new partnerships are the cornerstone of all of the progress that has been made towards zero discharges by 2020 and prove that it's

Jan, 2017

#### Detox Commitment, Utenos

This textile supplier from Lithuania joins the Detox community.

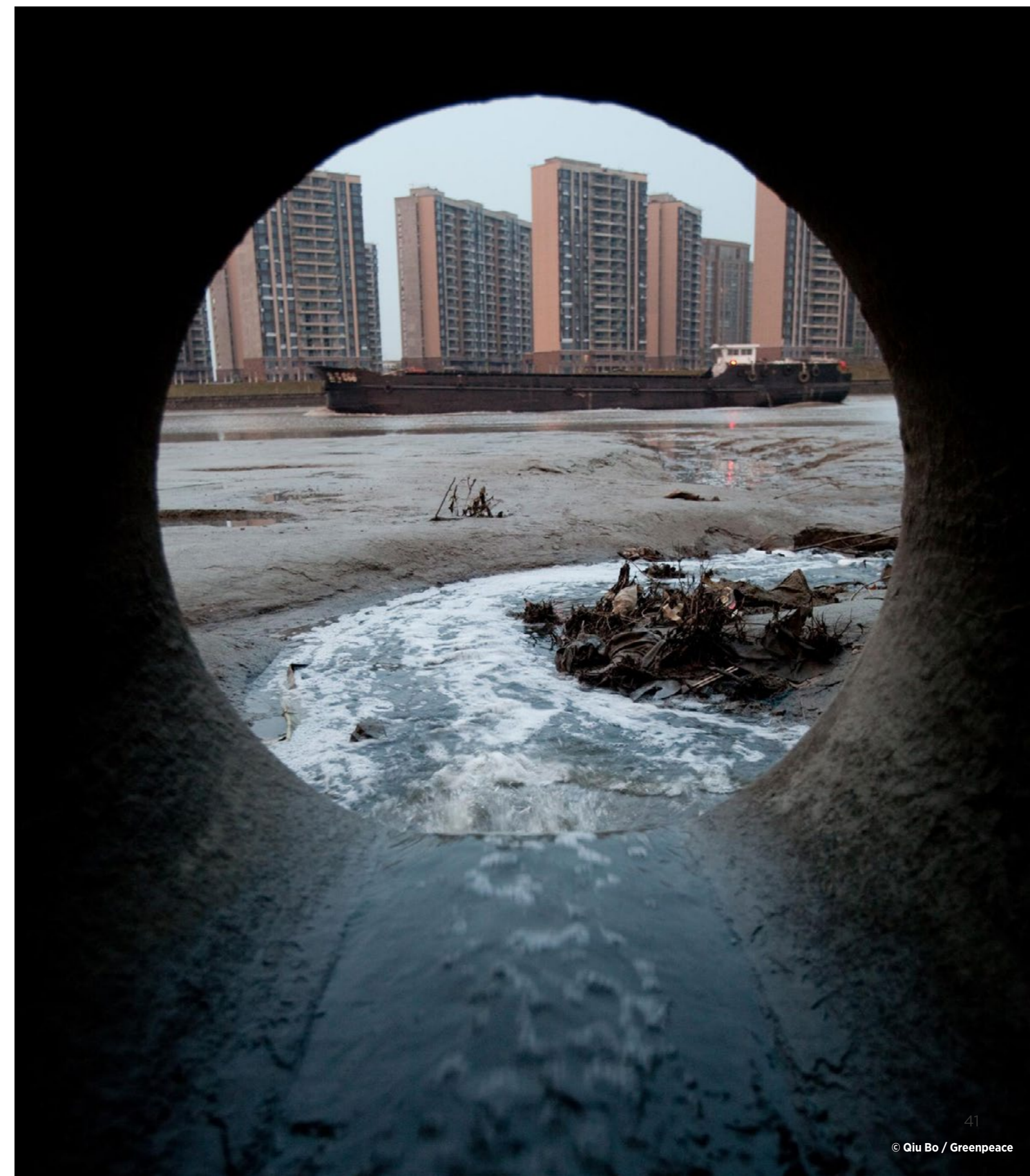
Feb 06, 2017

#### Report - PFC Revolution in the Outdoor Sector. Sounding the alarm on PFCs

Feb 06, 2017

#### Victory, Gore Fabrics, commits to eliminate hazardous PFCs

The maker of GORE-TEX® products and a major supplier of membranes and coatings to outdoor brands like The North Face and Mammut, has committed to eliminate hazardous PFCs from their product lines by 2023.



May 08, 2017

**Survey - After the Binge the Hangover.**

A new survey of international buying habits shows that people buy much more than they need and use, but it does not make them happy.

July 01, 2017

**Brands assessment, Retailers; "How seriously are retailers taking responsible fashion?"**

July, 2017

**Detox Commitment, Tesco**

Tesco, one of the world's biggest retailers, has committed to Detox. Now 80 companies are cleaning up their supply chain, making up for 15 % of the global clothing industry.

Sep 18, 2017

**Report - Fashion at the Crossroads.**

A review of initiatives to slow and close the loop in the fashion industry, calling on the fashion industry to slow down the overproduction and overconsumption of clothing.

Dec, 2017

**People Power: MAKE SMTHNG Week**

Together with Fashion Revolution and Shareable, Greenpeace launches MAKE SMTHNG Week to engage people in clothing repair, upcycling and sharing in order to fight overconsumption and waste. <sup>79</sup>

possible to motivate companies towards fundamentally changing the way they do business.

It is no longer acceptable for ignorance to be an excuse for inaction: by making hazardous chemicals in effluent visible and tracking improvements over time, the implementation of the roadmap towards zero is verifiable.

The support for the Detox campaign - from fashionistas to outdoor enthusiasts - has also demonstrated that citizens around the globe care about how their products are made and are actively demanding change from the industry. Greenpeace will continue to support them on this quest, together with other organisations that are calling for a fairer clothing industry which addresses working conditions and social and environmental injustices. Many changes are still needed to make this happen as well as to tackle the big and increasing problem of overconsumption, which is multiplying the negative impacts of clothing, including hazardous chemicals, the contribution of microplastic fibres to ocean pollution, waste and greenhouse gas emissions.

Detox companies should not only remain as an example of voluntary best practice; regulators need to step in to level the playing field. The progress that has been made also needs to be replicated throughout the clothing industry and in the wider textile sectors such as furnishings and automotive. The Detox model can also be applied

to other sectors, beyond textiles; the faster progress that's needed on tackling hazardous chemicals in chemical formulas would also facilitate this.

The Detox companies have laid the groundwork to make this possible, by doing the hard work of implementation. This precedent and experience, together with the tools that have been created so far - for auditing, identifying hazards, setting roadmaps and increasing transparency for example - are laid out in this report. There can be no excuse for doing nothing.



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<sup>79</sup> For the full Detox timeline see the online version:

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