Dirty Laundry

Unravelling the corporate connections to toxic water pollution in China

Executive Summary

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Pipe on the north side of the Youngor factory has finished dumping wastewater. The black polluted discharge is clearly visible.
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Note to the reader

Throughout this report we refer to the terms 'Global North' and 'Global South' to describe two distinct groups of countries.

The term 'Global South' is used to describe developing and emerging countries, including those facing the challenges of often rapid industrial development or industrial restructuring, such as Russia. Most of the Global South is located in South and Central America, Asia and Africa.

The term 'Global North' is used for developed countries, predominantly located in North America and Europe, with high human development, according to the United Nations Human Development Index.* Most, but not all, of these countries are located in the northern hemisphere.

* United Nations Development Programme (UNDP). (2005). Human Development Report 2005. International cooperation at a crossroads. Aid, trade and security in an unequal world. Available at: http://hdr.undp.org/en/media/HDR05_complete.pdf

image Wastewater being discharged from a pipe from the Youngor textiles factory, in Yinzhou district, Ningbo. Youngor is a major apparel and textiles brand in China.

The problem and the solution are not only a cause of local concern. This is a truly global issue.

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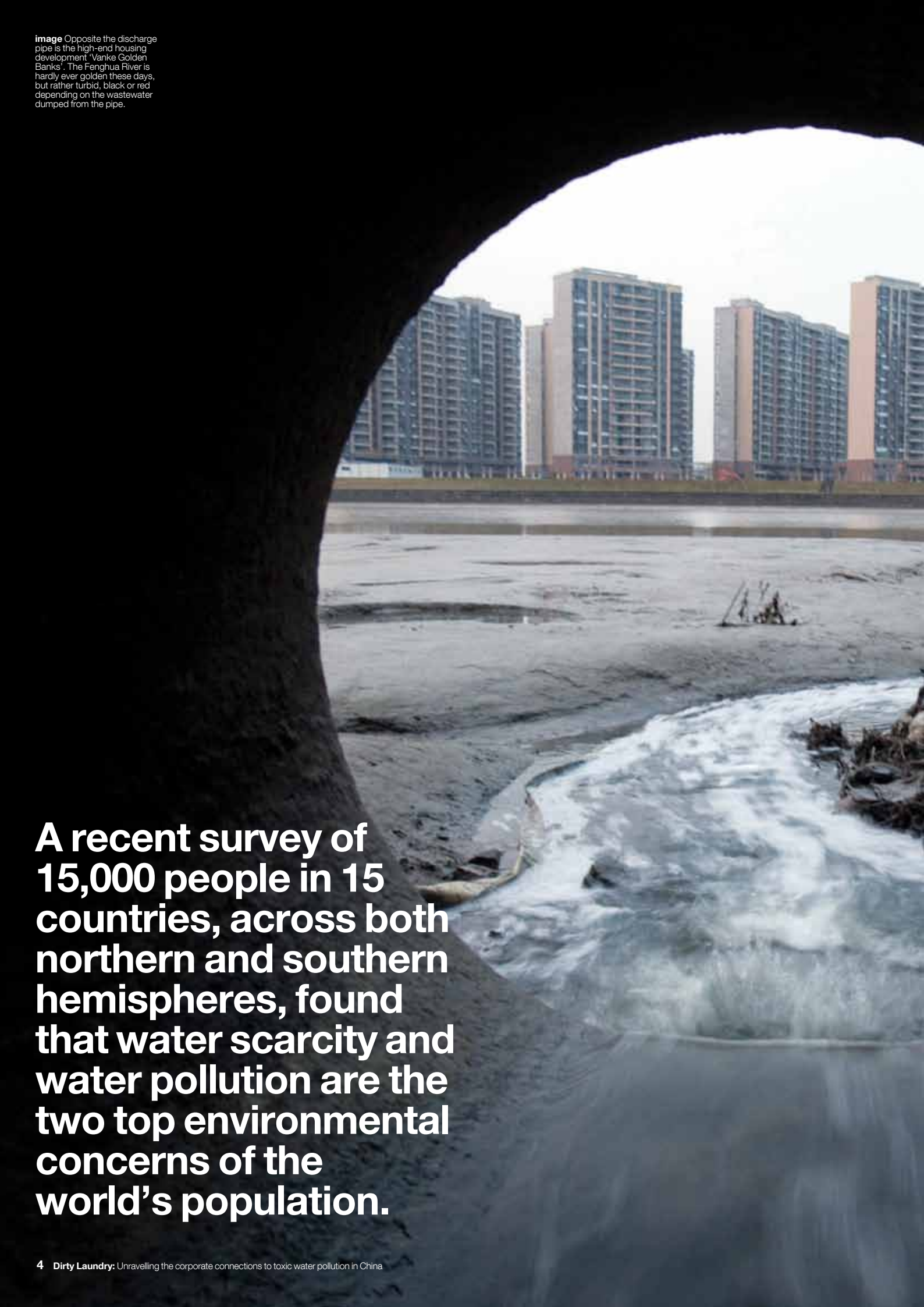
image Opposite the discharge pipe is the high-end housing development 'Vanke Golden Banks'. The Fenghua River is hardly ever golden these days, but rather turbid, black or red depending on the wastewater dumped from the pipe.



A recent survey of 15,000 people in 15 countries, across both northern and southern hemispheres, found that water scarcity and water pollution are the two top environmental concerns of the world's population.

Executive Summary

Dirty Laundry
The toxic secret behind global textile brands

Unravelling the toxic threads

Building upon Greenpeace's recent investigations, *Dirty Laundry* profiles the problem of toxic water pollution that results from the release of hazardous chemicals by the textile industry in China. This water pollution poses serious and immediate threats to both our precious ecosystems and to human health. Urgent and transparent action is needed in order to eliminate the use and release of these hazardous chemicals.

Leading clothing brands source many of their products from suppliers in China. Although some of these brands have Corporate Responsibility programmes which partly address the environmental impact of their supply chain, none of the brands featured in this report have an effective strategy in place to deal with the problem of water pollution caused by industrial discharges containing hazardous substances. At best, the majority of these programmes are limited to ensuring that suppliers comply with local standards – most of which rarely consider the discharge of the hazardous and persistent chemicals highlighted in this report. It is clear that these leading brands have not yet made a significant effort to tackle the problem of eliminating the release of hazardous chemicals during the production process.

Key findings of the investigations

- The investigations that form the basis of this report focus on wastewater discharges from two facilities in China. The first facility, the Youngor Textile Complex, is located on the Yangtze River Delta. The second, Well Dyeing Factory Limited, is located on a tributary of the Pearl River Delta. Additional investigations into the supply chains that tie these facilities to national and international brands were also undertaken. **The results from these samples are indicative of a much wider problem**.
- The scientific analysis of the samples found that both manufacturing facilities were discharging a range of hazardous chemicals into the Yangtze and Pearl River deltas. Significantly, **hazardous and persistent chemicals with hormone-disrupting properties were found in the samples**. Alkylphenols (including nonylphenol) were found in wastewater samples from both facilities, and perfluorinated chemicals (PFCs), in particular perfluorooctanoic acid (PFOA) and perfluorooctane sulphonate (PFOS), were present in the wastewater from the Youngor Textile Complex. This was **despite the presence of a modern wastewater treatment plant** at the Youngor facility. The alkylphenols and PFCs found in the samples are a cause for serious concern, as these chemicals are known hormone disruptors and can be hazardous even at very low levels. Many of the substances within these groups are regulated in the Global North, for example by the EU or by international conventions.
- Our investigations further revealed that the companies behind the two facilities have commercial relationships (as suppliers) with a range of major brands, including **Abercrombie & Fitch**, **Adidas**, **Bauer Hockey**, **Calvin Klein**, **Converse**, **Cortefiel**, **H&M**, **Lacoste**, **Li Ning**, **Meters/bonwe**, **Nike**, **Phillips-Van Heusen Corporation (PVH Corp)**, **Puma** and **Youngor**, and have also been linked with a number of other Chinese and international brands. When confirming their commercial relationship with the Youngor Group, Bauer Hockey, Converse, Cortefiel, H&M, Nike and Puma informed Greenpeace that they make no use of the wet processes of the Youngor Group for the production of their garments.

However, regardless of what the aforementioned brands use these facilities for, none of these brands have in place comprehensive chemicals management policies

that would allow them to have a complete overview of the hazardous chemicals used and released across their entire supply chain and to act on this information. As brand owners, they are in the best position to influence the environmental impacts of production and to work together with their suppliers to eliminate the releases of all hazardous chemicals from the production process and their products. These brands need to take responsibility for the use and release of persistent, hormone-disrupting chemicals into our critical and life-sustaining waterways. A commitment to **zero discharge** of hazardous chemicals along with a plan on how to achieve this is urgently needed in order to prevent the further accumulation of hazardous substances in the aquatic environment, and the resulting build-up in people and wildlife.

A persistent problem

The dangers associated with the use and release of persistent hazardous chemicals have been recognised, in part, by many countries in the Global North. There, policies to reduce the use and release of some priority hazardous chemicals have been implemented. Attempts to clean up some of the worst effects of decades of toxic pollution are underway, despite the very high expense of restoration programmes and the impossibility of total decontamination. By comparison, less progress has been made in many parts of the Global South to reduce the use and release of hazardous chemicals. Subsequently, lower costs and simpler regulation is something that many global brands have taken advantage of, by locating production facilities in these areas or purchasing goods from facilities located in the Global South.

Among the numerous chemicals used and released by industry, persistent substances – such as heavy metals and some hazardous organic chemicals – are a source of particularly high concern.

These hazardous chemicals pose long-term threats to human health and the environment. What makes many of these chemicals so dangerous is that they are not only persistent (meaning that they do not readily break down in the environment), but also bioaccumulative (meaning that they can build up in the food chain and can have serious, long-term effects on the organisms that ingest them). Some are able to interfere with hormone systems in people and wildlife, even at very low doses, while others are carcinogenic or reprotoxic.

Furthermore, the effects of such persistent and bioaccumulative substances are not confined to local or regional areas. Many can be transported far beyond their release point via ocean currents, atmospheric deposition and food chains. Some are even transported to remote locations, such as the polar regions, where they can accumulate. The problem and the solution are therefore not only a cause of local concern. This is a truly global issue.

Water pollution: Made in China

China has some of the worst water pollution in the world, with as much as 70% of its rivers, lakes and reservoirs being affected by all types of pollutants. About 20% of the organic pollutants from all sources in China are accounted for by discharges from industry.[1] However, the contribution of persistent, hazardous chemicals to this pollution is not properly assessed and remains largely unknown.

To explore this problem further, in 2009 Greenpeace investigated five facilities discharging industrial wastes into the Pearl River Delta and found a variety of hazardous chemicals in their wastewater. There are also signs that persistent chemicals are building up in Chinese rivers; studies have detected the persistent and hormone-disrupting pollutants alkylphenols and PFCs in fish species along the Yangtze River.[2]

Clearly, the current approach to pollution control – which relies on wastewater treatment plants, ambient quality standards and limits on certain pollutants in effluent – has not prevented industrial water pollution by hazardous and persistent chemicals. In fact, treatment plants are unable to remove many of these substances from wastewater, meaning that they either pass through the treatment process unchanged, are converted into other hazardous substances, or accumulate in treatment plant residues, such as sludge.

Textile production and its links to the pollution

The modern textile industry has a long history of migrating from one region or country to another. Most of this migration has been driven by one factor: the need to cut costs.

As well as being an important sector in China's economy, accounting for 7.6% of China's total trade volume[3], the textile industry is a large user of chemicals, many of which are hazardous and persistent, and is reported to be a major source of water pollution. The 'wet processing' of textiles, including dyeing, washing, printing and fabric finishing leads to the discharge of large quantities of wastewater containing toxic substances.

Although large-scale pollution from the textile industry has been a problem throughout its history, the more recent use of persistent and hazardous chemicals poses a greater, and often invisible, threat to ecosystems and human health.

Corporate connections and the skeletons in their closets

The global textile supply chain is complex, involving many different stages and actors. Multinational brand owners may contract suppliers directly or indirectly, through agents or importers. Normally, it is the brand owner who triggers the product development process, including research and design. **Brand owners are therefore the best placed to bring about change in the production of textiles and clothing** - through their choices of suppliers, the design of their products and the control they can exert over the use of chemicals in the production process and the final product.

The international and Chinese brands connected to the suppliers investigated in this report vary greatly in their approach to environmental sustainability and corporate social responsibility (CSR). Some of the brands – such as Li Ning, Bauer Hockey, Abercrombie & Fitch and Youngor – carry out little or no reporting on CSR issues. They do not publish a chemicals management policy, nor do they make publically available lists of chemicals banned or restricted in their products or during their manufacture. In contrast, the sportswear brands Nike, Adidas and Puma, fashion brands such as H&M and apparel companies such as Phillips-Van Heusen all publish more detailed information about their approach to managing hazardous substances in their products[4] (see Appendix 1 for details).

The policies and practices of Nike, Adidas and Puma were examined in particular detail for this report, due in part to the fact that all three have been recognised by external bodies – such as the Dow Jones Sustainability Index[5] – as leaders on sustainability issues. As part of this investigation, particular attention was paid to those policies and practices relating to the discharge of hazardous substances into water by their supply chains. Nike, Adidas and Puma all have detailed restricted substances lists specifying which substances must not be present above certain limits in their final products. However, there is no evidence that any of the brands implement measures to restrict the release of most hazardous substances into water via their suppliers' wastewater discharges, beyond the requirements of local legislation.

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image Coils and bundles of cloth in a production chamber of the Well Dyeing Factory Ltd.

PVH

"We recognise that our supply chain processes impact the environment. While we do not have direct control over our suppliers, vendors and service providers, we […] seek to have our suppliers and vendors meet our environmental requirements with respect to wastewater treatment, hazardous chemicals, air quality and recycling."

Phillips-Van Heusen, Environmental Statement[10]

Responsibility for cleaning up

China has yet to develop strong legislation, monitoring and enforcement mechanisms to deal effectively with the use of hazardous chemicals and their subsequent discharge into water. Brands that source products from China need to take the lead by accepting responsibility for the problem of hazardous chemical discharges and by implementing a series of measures throughout their supply chains that go beyond the general 'environmental management' approach apparent in some Corporate Responsibility programmes.

This will require a change in the way that discharges of hazardous chemicals are dealt with. As this investigation has shown, even where modern wastewater treatment plants exist – such as at the Youngor Textile Complex – hazardous persistent chemicals can still be present in the treated wastewaters. New strategies therefore need to be adopted that will prevent the discharge of these chemicals into our water supplies by eliminating their use altogether.

Stricter regulations and enforcement mean that in much of the Global North the use of substances – such as alkylphenols and many of the PFCs – is avoided in textile manufacturing. In some instances, eliminating the use of hazardous chemicals – such as alkylphenols – and replacing them with a safer alternative has saved brands money, and even kept companies in business. Substituting with safer alternatives often enables the use and discharge of hazardous chemicals to be completely eliminated.

Yet in countries such as China, hazardous chemicals that endanger the health of people and wildlife – both locally and globally – continue to be used, even though alternatives exist. In fact, while the production of hazardous chemicals such as PFOS and nonylphenols is falling globally, it is actually on the increase in China.

It is therefore vital that brands intervene rapidly to instigate a phase-out of hazardous chemicals throughout their supply chains, starting with those that are known to be highly problematic and that have already been regulated elsewhere (see Section 4 for a list of 11 priority groups of chemicals for phase-out by the textile sector). **Given their significant economic influence, the major brands are in a unique position to lead on this phase-out within the textile industry by setting a deadline for elimination and developing a substitution plan.** They must ensure that adequate resources are devoted to the development of alternatives, to enable substitutes to become both available and economically viable.

However, despite the **urgent need for leadership and real action on the ground from innovative brands** seeking first-mover advantage, if the shift to a toxic-free future is to be effective it will also need to be enforced throughout the industry. There is therefore also a need for **governments to put in place comprehensive chemical management policies** to facilitate the shift from hazardous to non-hazardous chemicals.

Championing a better future

Toxic pollution has to be dealt with in all countries. **Hazardous, persistent and hormone-disrupting chemicals continue to be used and released, contaminating our waterways and threatening our livelihoods and our future.** As influential actors implicated as part of a broken system, brands and governments have a responsibility to act now.

The role of brands:

To this end, Greenpeace is calling on the brands and their suppliers identified in this investigation to become the **champions for a post-toxic world** – by eliminating all releases of hazardous chemicals from their supply chains and their products.

Specifically, this entails establishing clear company and supplier policies that commit their entire supply chain to the shift from hazardous to safer chemicals, accompanied by a plan of action that is matched with clear and realistic timelines.

Proper policies to **eliminate the use and release of all hazardous chemicals across a company's entire supply chain** should be based on a **precautionary approach** to chemicals management, and account for the **whole product lifecycle and releases from all pathways**. To be credible, these policies need to be accompanied by a plan of implementation, with clear timelines, and be matched with real and substantial action on the ground. Furthermore, steps such as knowing what hazardous chemicals their suppliers use and release, being transparent and accountable by making this data publicly available, and prioritizing 'known' hazardous chemicals for immediate elimination will be fundamental to their shift towards championing a toxic-free future.

Above all these companies need to act as leaders and innovators. The problems associated with the use and release of hazardous chemical within the textile industry will not be fixed by severing ties with one or two polluting suppliers. The solutions are to be found in working together with suppliers to bring about systematic change in the way brands and businesses create their products. Such action requires vision, commitment and a desire to improve upon the current approach to hazardous chemicals. Every brand and supplier has the responsibility to know when and where hazardous chemicals are being used and released up and down their supply chain and to strive to eliminate them. **It will therefore be through their actions, not their words, that these brands can become agents of positive change.**

The role of governments:

Greenpeace is calling on governments to adopt a political commitment to '**zero discharge**' of all hazardous chemicals within one generation, based on the **precautionary principle** and a **preventative approach** to chemicals management.

This commitment must be matched with an implementation plan containing intermediate short term targets, a dynamic list of priority hazardous substances requiring immediate action, and a publicly available register of data on discharge emissions and losses of hazardous substances, such as a Pollutant Release and Transfer Register (PRTR). These steps must be taken to prevent further damage to the environment and risks to health from future uses and releases of hazardous and persistent chemicals, and to avert the need for costly clean-up operations.

Governments have a choice. They can continue to expose their citizens and the environment to hazardous toxic pollution, and condemn future generations to pay for the management of contaminated sediments, whose full and final costs are incalculable. Or they can commit to creating a post-toxic world, by taking precautionary action to support truly sustainable innovation, and progressively reduce the use and release of hazardous substances **down to zero.**

The role of global citizens:

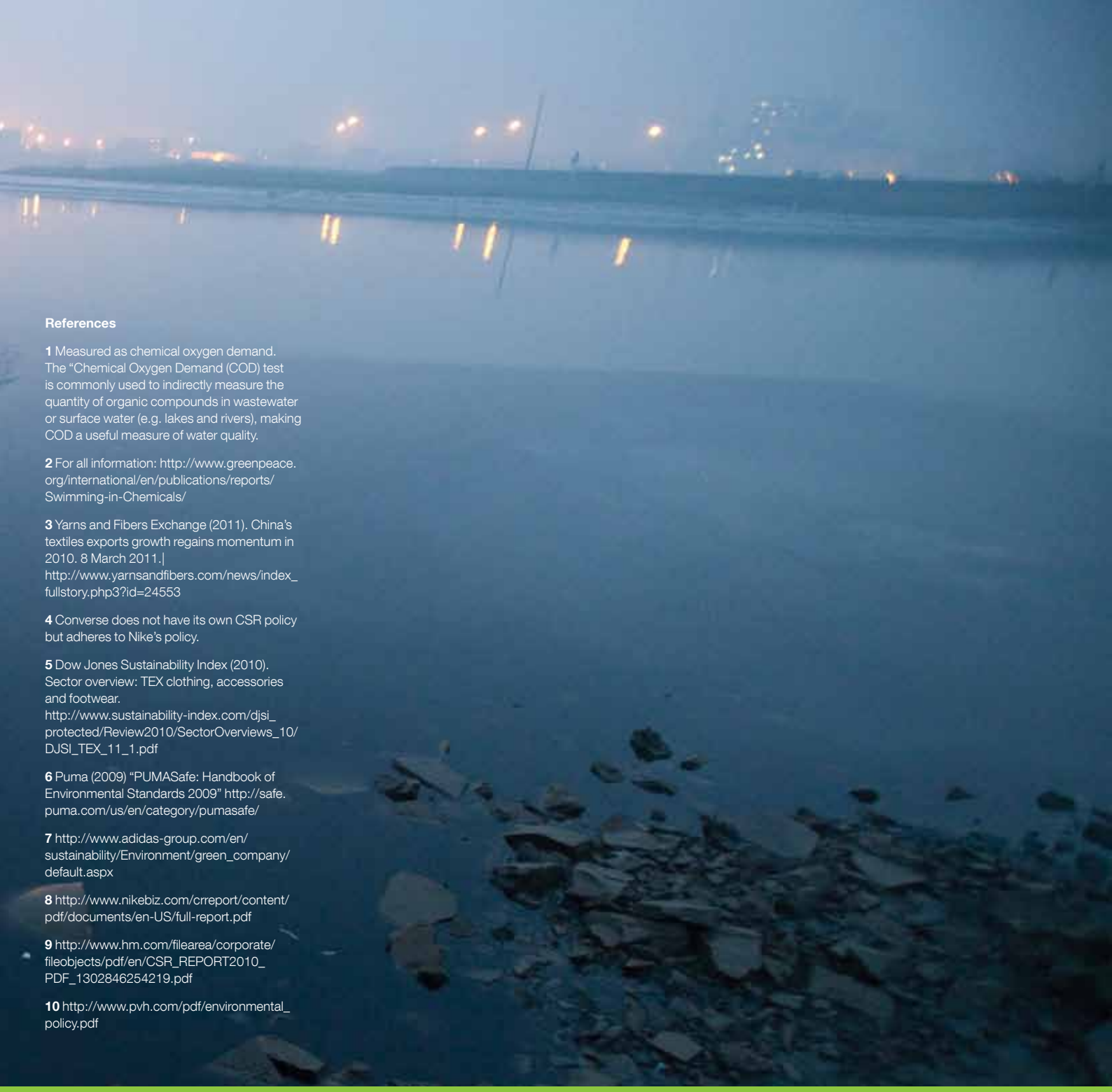
As global citizens, our power to stand up for what we believe in and to collectively influence brands and governments to make the right choices for us and future generations has never been greater than it is today.

Please join with us and support Greenpeace in calling on these brands to **champion a post-toxic world** – where our water supplies are no longer polluted with hazardous, persistent and hormone-disrupting chemicals by industry.

Together we can demand that they act NOW to detox our rivers, detox our planet and ultimately, detox our future. A post-toxic world is not only desirable, it's possible. Together we can help create it.

The time to act is now.

www.greenpeace.org/detox



References

1 Measured as chemical oxygen demand. The "Chemical Oxygen Demand (COD) test is commonly used to indirectly measure the quantity of organic compounds in wastewater or surface water (e.g. lakes and rivers), making COD a useful measure of water quality.

2 For all information: http://www.greenpeace.org/international/en/publications/reports/Swimming-in-Chemicals/

3 Yarns and Fibers Exchange (2011). China's textiles exports growth regains momentum in 2010. 8 March 2011.| http://www.yarnsandfibers.com/news/index_fullstory.php3?id=24553

4 Converse does not have its own CSR policy but adheres to Nike's policy.

5 Dow Jones Sustainability Index (2010). Sector overview: TEX clothing, accessories and footwear. http://www.sustainability-index.com/djsi_protected/Review2010/SectorOverviews_10/DJSI_TEX_11_1.pdf

6 Puma (2009) "PUMASafe: Handbook of Environmental Standards 2009" http://safe.puma.com/us/en/category/pumasafe/

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10 http://www.pvh.com/pdf/environmental_policy.pdf

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