

Hidden Consequences

Executive Summary

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Industrial pollution is a severe threat to water resources around the world, particularly in the Global South where the view prevails that pollution is the price to pay for progress. This view is usually associated with the ideas that dealing with pollution is too costly, that pollution prevention is too difficult and impractical, and that environmental and social effects can be dealt with in the future.

To make matters worse, there is also a general misconception that wastewater treatment plants can eventually deal with all water pollutants, whatever their toxicity.

This short-term view has resulted in the widespread dumping of undisclosed and often hazardous chemicals into water. However, when substances with persistent and/or bioaccumulative¹ properties remain undetected or ignored in the aquatic environment, long-lasting and irreversible environmental and health problems can result.

'Zero discharge'

The only way to address these hidden dangers in our water is through a preventative approach: Taking action to phase out the use and discharge of hazardous chemicals, rather than attempting to control the damage with end-of-pipe treatment methods. Accordingly, Greenpeace is calling for governments to adopt a political commitment to 'zero discharge'² 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 short-term targets, a dynamic list of priority hazardous substances requiring immediate action³, and a publicly available register of data about discharge emissions and losses of hazardous substances, such as a Pollutant Release and Transfer Register (PRTR)⁴.

Our call for 'zero discharge' is built upon three decades of exposing and addressing the problem of hazardous chemicals. However, rapid industrialisation is now taking place in many parts of the Global South, with seemingly little regard for the painful lessons learnt in the Global North – where the pollution caused by hazardous substances has generated enormous economic, environmental and social costs.

Learning lessons from the Global North

Case studies from the Global North show the extent to which persistent and bioaccumulative substances have contaminated entire regions. They also show the immense difficulties – technical, economic and political – of cleaning up these hazardous chemicals after release, including the very high expense of restoration programmes and the impossibility of total decontamination.

Worse still, the largely unquantifiable costs to human health, the environment and to local economies are rarely considered or compensated. Many of these effects are irreversible, while the effects beyond the region concerned are impossible to calculate. For persistent and bioaccumulative substances these effects can be global, as they can be transported far beyond their source via ocean currents and atmospheric deposition, and they have even accumulated in the polar regions of the Earth.

In East Asia, Southeast Asia and other parts of the world where industrialisation is booming, there is a danger that expenditure on even basic environmental measures – let alone the avoidance of hazardous substances through substitution – could be seen as an unnecessary impediment to economic growth. The case studies from the Global North show that attempts to ‘save money’ by opting for the cheapest ways to use and dispose of hazardous chemicals in the short term can ultimately translate into extremely high costs and losses in the future. These costs then have to be borne by someone, and this is either the companies concerned or the taxpayer – often both.

Polluting in the pursuit of profit can prove to be an expensive strategy for industry in the long run. The Swiss chemical industry and General Electric in the US have both been held accountable for subsequent clean-up costs. However, pinning responsibility onto the polluter is not always straightforward, such as in the case of the Laborec River in Slovakia. If financial liability cannot be established, or if the polluter is no longer around, it is the state, and therefore the taxpayer, who is left with the clean-up bill.

In a large river basin, the polluters can be so numerous and widely spread that it is not possible to hold them liable for clean-up of the enormous pollution problems caused downstream, as is the case with the delta formed by the confluence of the Rhine, Meuse and Scheldt rivers in the Netherlands and Belgium. The Rhine-Meuse delta problem is not unique – the world has many heavily industrialised water basins. The Yangtze and the Pearl River Delta in China, the Great Lakes in the US and the Riachuelo River basin in Buenos Aires face similar difficulties, with high concentrations of persistent contaminants in the sediments of the rivers and their harbours.

The opportunity

If we fail to learn from the mistakes of the past, then we are doomed to repeat them. This is especially the case in those regions of the world where much chemical and manufacturing production has now relocated – namely Asia and the wider Global South. Policy makers in these regions have the opportunity to avoid making some of the same grave mistakes that were made in Global North, and ‘leapfrog’ over the conventional approach of waste and wastewater end-of-pipe treatment to focus on prevention first.⁵ A precautionary approach would help protect their waters – and the livelihoods of all those who rely on those waters – both now and for future generations.

The message could not be clearer. Governments have a choice. Should they 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 should they instead commit to a ‘Toxic-Free Future’, and take precautionary action to support truly sustainable innovation and progressively eliminate the use and release of hazardous substances down to ‘zero discharge’?

image A Greenpeace campaigner takes a water sample from a polluted river near Dadun Village, Xintang, Zengcheng, in China.

Greenpeace International

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The costs of industrial water pollution on people, planet and profit

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1 'Bioaccumulative' means the ability to accumulate in the food chain.

2 'Discharge' means all discharges, emissions and losses. In other words, all pathways of releases.

3 Based on the basic intrinsic properties of hazardousness – persistence; bioaccumulation; toxicity (including carcinogenicity, mutagenicity and toxicity to reproduction (CMR)); endocrine disruption; and equivalent concern.

4 PRTRs are inventories of pollution from industry and other sources providing government, industry, and the public with information on releases and transfers of hazardous chemicals to air, water and land.

5 Evans JE & Hamner WB (2003) suggest the leapfrog approach in 'Cleaner Production at the Asian Development Bank', Journal of Cleaner Production, 11;6: 639-649, 2003. This states that the bank 'believes that CP (Cleaner Production) can save the Asian region billions of dollars in environmental infrastructure costs', and that the conventional command and control approach has not significantly succeeded in reducing pollution in most developing countries due to 'lack of political will, financial resources and legal capacity to enforce standards, and the mistaken belief that environmental protection was an obstacle to economic development'.

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Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

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