



Pollution

A growing number of pollutants are overwhelming the Earth's natural control mechanisms. Pesticides, active pharmaceutical ingredients and industrial chemicals have been detected in water throughout the world, for instance. No one really knows what long-term effects some of these substances will have on the health of plants, animals and humans; there is a great deal of uncertainty about their combined effects – even in low concentrations – and their behaviour in ecosystems and organisms. [1] But as the impact of pollution from industrial processes is increasingly felt, public opinion is evolving to tackle it. Pressure from concerned citizens is driving the implementation of new laws that will place industry and business practice under greater scrutiny, and perhaps impose stronger limitations on them. In countries like China, for example, public pressure has already injected greater urgency into the Government's attempts to reduce air and water pollution through regulation, a pattern that could well be repeated elsewhere.

Footnotes:

1. [Swiss Federal Office for the Environment FOEN \(last updated: 2013\).](#)

Implications

- Pollution is a major constraint on both commercial and industrial activities. Reducing it will generate huge health, quality of life, economic and environmental benefits. For example, a reduction in the pollution of water resources and land would have a positive impact on inland and coastal fisheries, as well as water ecosystems and land values in general. [1]
- Better water sanitation and facilities could also lead to greater productivity and involvement in the workplace, especially in the case of women, who are often at the most disadvantage from poor sanitation and facilities.
- Regulation on pollution is likely to increase as the effects on people become more severe. In fact, the impact of urban outdoor air pollution on people's health and the environment has already led to calls for more policies and investments that will help to reduce it, including cleaner transport, energy-efficient housing and power generation, and better industry and municipal waste management. [2]

Footnotes:

1. [UN water and World Health Organization \(2014\).](#)
2. [World Health Organization \(2014, March\).](#)

Current trajectory

In many urban areas exposure to air pollution is the main environmental threat to health. Ambient (outdoor air pollution) in both cities and rural areas caused an estimated 3.7 million premature deaths worldwide in 2012. [1]

- China has experienced various forms of hazardous pollution due to its rapid industrialisation, resulting in widespread environmental and health problems. Under growing pressure from the public, the Chinese Ministry of Environmental Protection added pollution particles at PM2.5 to the updated environmental air quality standard in January 2012, and in 2014 made amendments to public interest

litigation to allow civil society actors to sue polluters in court. [2]

- Estimates show that 2 million tons of sewage, industrial and agricultural waste is released directly into the environment every day, including 90% of wastewater in developing countries. In total 80% of used water around the world is not collected or treated. [3]

- More people die from unsafe water every year than from all forms of violence, including war. [4]

- Man-made industrial persistent pollutants, including certain plastics and Persistent Organic Pollutants (POPs), are particularly problematic for the environment. Natural cycles do not deal with them effectively, which means they accumulate in nature and the food chain. This can lead to direct toxic effects on humans (such as increased risk of cancers and birth defects) and damage to entire ecosystems. [5]

- Studies by Harvard School of Public Health in 2012 and 2014 have found a link between neonicotinoids – a class of insecticide – and Colony Collapse Disorder (CCD) – i.e. bees abandoning their hives over the winter and eventually dying. As a result neonicotinoids have been banned in the EU since 2013. [6]

- The most comprehensive study to date on plastic pollution around the world found that over 5 trillion plastic particles – mostly micro-plastics or nurdles – are floating in our oceans. [7]

- A trillion single-use plastic bags are used worldwide each year, equating to nearly 2 million every minute. [8]

Footnotes:

1. [World Health Organization \(2014, March\).](#)
2. [Deutsche Welle \(2014\).](#)
3. [UN Water \(2013\).](#)
4. [UN Water \(2013\).](#)
5. [UNEP/AMAP \(2011\) - Climate Change and POPs: Predicting the Impacts, Page 7.](#)
6. [Harvard University \(2014, May\).](#)
7. [The Guardian \(2014, December\). - Full scale of plastic in the world's oceans revealed for the first time.](#)
8. [Earth Policy Institutes \(2014, October\).](#)