Hidden Consequences

References

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.

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227 It is important to make a distinction between Cleaner Production and Clean Production. Clean production is any practice that eliminates at source the use or formation of hazardous substances through the use of non-hazardous chemicals in production processes, or through product or process redesign, and thereby prevents releases of hazardous substances into the environment by all routes – directly or indirectly. Cleaner production includes conserving raw materials and energy; eliminating toxic raw materials; and reducing the quantity and toxicity of all emissions and wastes before they leave a process (UNEP Cleaner Production Program - http://www.unido.org/index.php?id=o5152). In other words, Clean Production requires elimination and Cleaner Production requires only reductions.

228 The substitution principle requires finding solutions through non-hazardous alternatives and not simply through transforming one hazard into another hazard, or by substituting a hazard with another slightly less hazardous but still problematic chemical

229 REACH is the European Community Regulation on chemicals and their safe use (EC 1907/2006). It deals with the Registration, Evaluation, Authorisation and Restriction of Chemical substances. The law entered into force on 1 June 2007. The aim of REACH is to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances, and to make the `burden of proof´ (of a chemical´s safety) the responsibility of the chemical producer and not the authorities. At the same time, REACH aims to enhance innovation and competitiveness of the EU chemicals industry. See http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm [accessed 18 February 2011]

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234 Rick Reibstein, OTA, personal communication.

235 See, for example, Opportunities for Innovation: Pollution Prevention Edited by David E. Edgerly. National Institute of Standards and Technology Gaithersburg, MD 20899. Prepared for US Department of Commerce National Institute of Standards and Technology Gaithersburg, MD : 20899NIST GCR 93-659, August 1994. http://www.p2pays.org/ref/02/01123/01123.pdf

236 See, for example, how standing is now being granted in China to environmental protection organisations to sue for environmental damage. Shanxi province has passed a law to encourage public participation in environmental protection. http://www.greenlaw.org.cn/enblog/?tag=environmental-litigation [accessed 18 October 2010]

237 Conway P et al (2003). The North Carolina Textiles Project: An Initial Report, U. NC at Chapel Hill. At: http://www.unc.edu/~pconway/Textiles/nctp_tatm_rev.pdf

238 POTW - Publicly-owned waste water treatment works.

239 Moore SB & Ausley LW (2004). Systems thinking and green chemistry in the textile industry: concepts, technologies and benefits, Journal of Cleaner Production, 12: 596.

240 NC Department of Environmental Management (1982). Incorporating the Pollution Prevention Pays Concept - A Plan of Action. Raleigh, NC.

241 NC Division of Pollution Prevention and Environmental Assistance, Environmental Stewardship Initiative Legislative Report, 2008.

242 Gary Hunt has served as director of the division for most of that time, and has also advised EPA and the National Pollution Prevention Roundtable on pollution prevention practice and policy.

243 Phone interview with Gary Hunt, October 2010.

244 For example, 'Case Studies of Strategic Benefits Realized by Selected Participants in the Toxics Use Reduction Program', (Meninger, Wirtanen, Kelly, Diener, UMass Boston, 1995), found that companies examining their toxic materials inputs not only reduced toxics use but also achieved 'enhanced product quality, new product development, reduced and competitive pricing, increased customer responsiveness, reduced time to market, and increased share of market'.

245 Personal communication from Richard Reibstein, Massachusetts Office of Technical Assistance.

246 JE Evans and WB Hamner suggest the leapfrog approach in 'Cleaner Production at the Asian Development Bank', Journal of Cleaner Production, 11:6: 639-649, 2003, which 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'.

247 For examples of initiatives that seek to green whole sector lifecycles such as the NICE fashion Initiative (Nordic Initiative Clean & Ethical Fashion), see http://www.nicefashion.org/en/about/ and http://www.nicefashion.org/en/resources/Chemicaltool.html. For product environmental CV initiatives such as the new open source eco-index launched by some big clothing brands, see http://www.ecotextile.com/index.php?option=com_content&view=article&id=10864:worlds-clothing-brands-to-launch-eco-label-for-consumers&catid=10:fashion-retail&Itemid=32. These are just examples of many such initiatives and do not correspond to a Greenpeace endorsement of these tools and initiatives.

248 Ecolabel Index, which tracks eco-labels, now includes 329 eco-labels in 207 countries. The International Finance Corporation of the World Bank Group now applies environmental sustainability standards 'to all investment projects to minimise their impact on the environment and on affected communities'. See http://www.ifc.org/ifcext/sustainability.nsf/Content/EnvSocStandards, and http://www.sciencedaily.com/releases/2008/01/080121100554.htm

249 2003 report on Socially Responsible Investing Trends in the United States, Social Investment Forum, October 2003. See www.socialinvest.org/resources/research/documents/2003TrendsReport.pdf [accessed 17 December 2010]

250 2010 European SRI Study, Eurosif, 2010. See http://www.eurosif.org/research/eurosif-sri-study/2010 [accessed 17 December 2010]

251 Textile Manufacturing Environmental Health and Safety Guidelines (2007). International Finance Cooperation - World Bank Group, April 2007. At: http://www.ifc.org/ifcext/sustainability.nsf/Content/EHSGuidelines

252 MTURA has reduced toxic chemical use in the state of Massachusetts by several hundred million pounds (100 million pounds = 45,000 tonnes) and saved companies more than the cost of its requirements. The latest results from the US EPA P2 programme indicate that prevention has been very cost-effective, saving a total of approximately $6.4 billion US dollars between 2004 and 2006 (see examples of MTURA and the North Carolina Pollution Prevention Pays in boxes 6 and 7.)

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

254 Typically, one generation is understood to be 20 to 25 years.

255 For example, 'no data, no market' provisions.

256 Based on the eight basic intrinsic properties of hazardousness – persistence; bioaccumulation; toxicity; carcinogenic, mutagenic and reprotoxic; endocrine disruption; and equivalent concern.

image: A winter swimmer cuts through the waters underneath the bridge spanning the Yangtze River in Wuhan City, China.

GREENPEACE

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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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