How the Toxic Use Reduction Act continues to promote Clean Production and Green Chemistry Internationally

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CLEAN PRODUCTION ACTION

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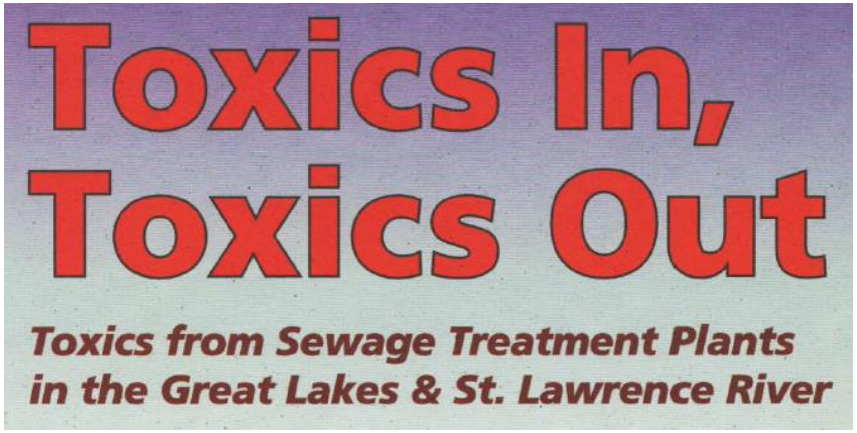
1. Toronto Sewer Use-Bylaw: integrating mandatory P2 planning and mass balance audits

Water is constantly recycled and becomes our drinking water— that's why it's so important to reduce chemical use.

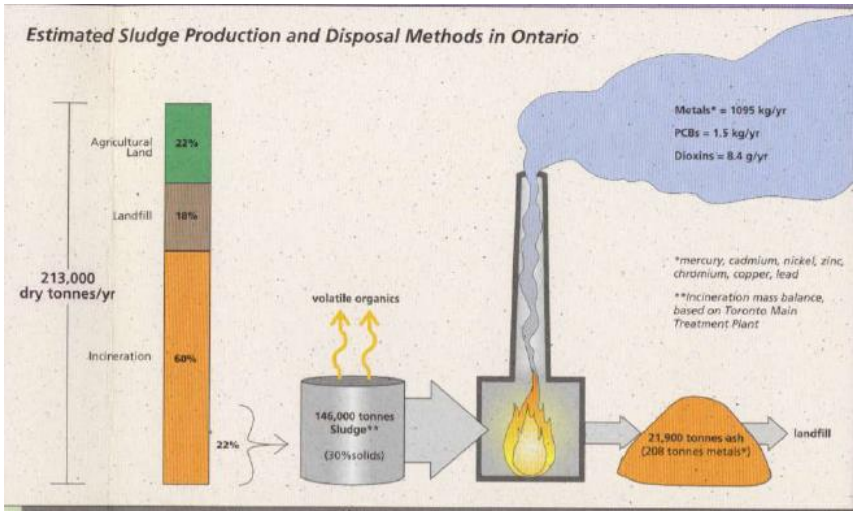
Protecting water quality in our streams, rivers and Lake Ontario

WWF Canada campaign on toxic discharges to sewer treatment plants calls for mandatory P2 planning

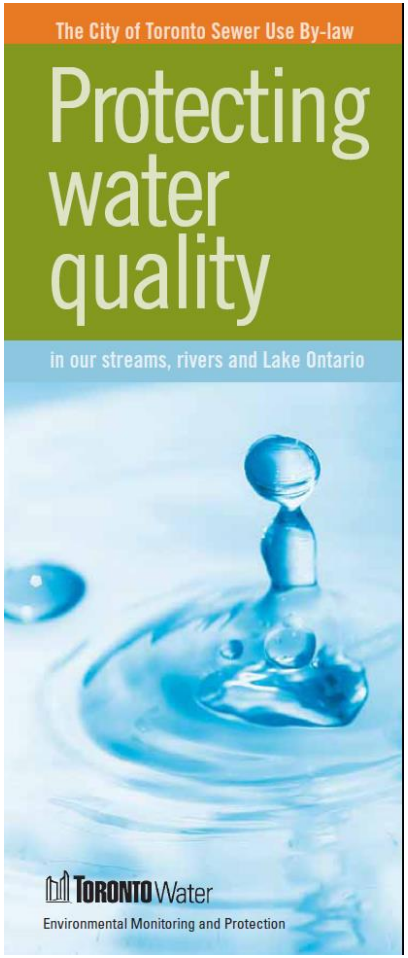
37% toxic effluents to Great Lakes ecosystem from STPs



Heavy metals, dioxins, PCBs etc from sewage sludge incineration



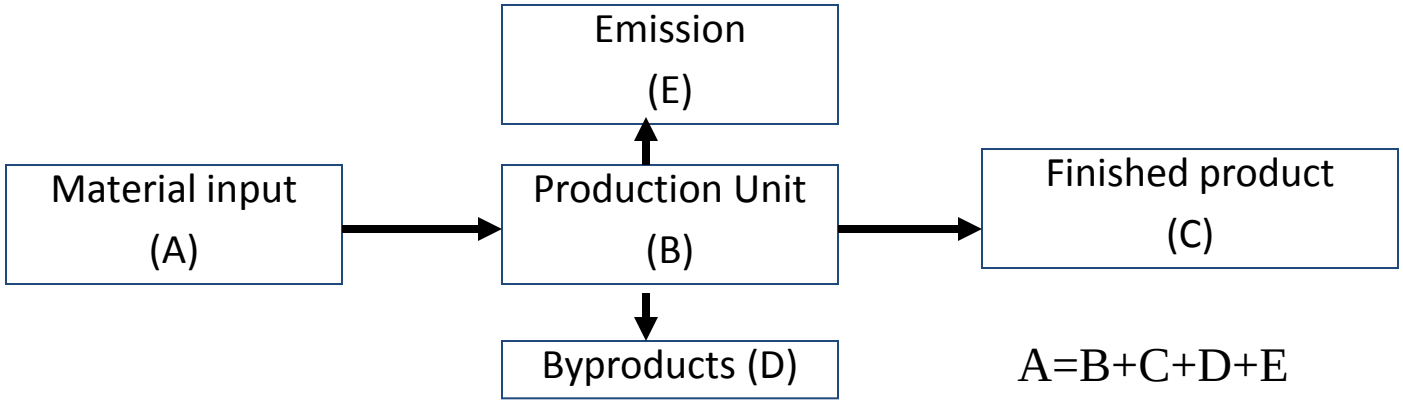
Revised Toronto sewer use bylaw (2000)



- 38 chemicals targeted
- Mandatory P2 planning and implementation
- Plan must have a mass balance audit
- Plans revised every 6 years with summary updates every 2 years
- Biosolids quality must be improved

P2 Plan modeled after TURA

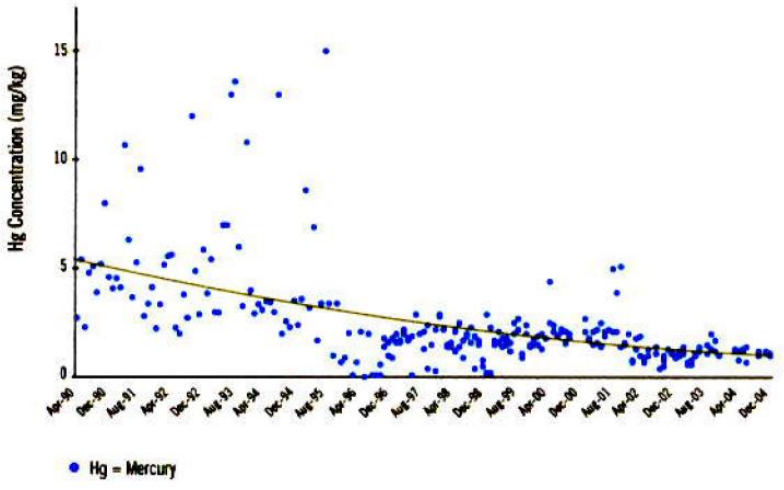
- Materials Accounting
  - desired outcome: general balance between inputs and outputs of each separate substance
  - rule of thumb- unaccounted material within 10% of total input of subject pollutant
  - mass of inputs = mass of outputs (product + byproduct + losses)



Heavy metal contamination in biosolids continue to fall allowing more beneficial uses

" Treated wastewater is starting to show a reduction in levels of heavy metals…most significant reduction is the mercury level in biosolids. Since establishing this law, the 4 STPs have recorded between a 41% and a 72% reduction in mercury levels."

- 2002 annual report



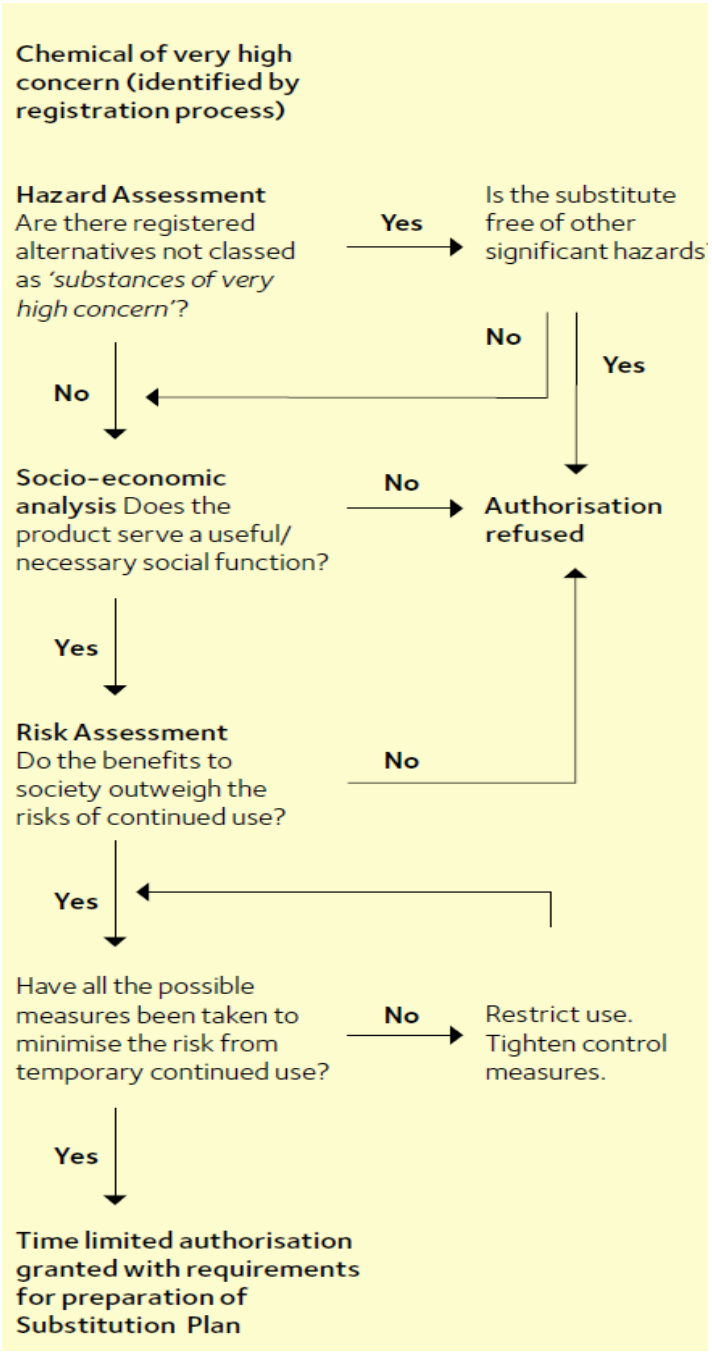
Dental offices a major target for P2 planning and enforcement

2. How TURA catalyzed substitution planning within REACH

"My goal has been achieved: all dangerous substances will be dealt with in a way that can or will lead to substitution" – Guido Sacconi – negotiator for European Parliament position. Dec 1, 2006

Advocates lobbied for mandatory substitution planning within REACH

- Contentious issue: adequate control and exposure reduction for highly hazardous chemicals versus mandatory substitution with inherently safer alternatives
- TURA's mandatory planning requirements evolved into a mandatory substitution planning recommendation to European Parliament and Council



Final authorisation process for hazardous chemicals incorporates some demands for planning

- Application process must include an analysis of alternatives considering their risks and the technical and economic feasibility of substitution, including, if appropriate information about any relevant R&D activities
- Where analysis shows suitable alternatives are available then also a substitution plan including a timetable for proposed actions
- Authorisations time limited (case by case basis)

adequate control for authorized chemicals still a possibility…but substitution incentives exist

***PBT and vP vB**

- No adequate control allowed
- Socio economic reasons and availability of alternatives govern possible granting of authorisation – or not.

- *persistent, bioaccumulative and toxic compounds and very persistent very bioaccumulative
- ** carcinogens, mutagens and reproductive toxins and persistent and or bioaccumulative

****CMR and P and B**

- an authorisation shall be granted if the risk to human health or the environment …is adequately controlled.
- If no adequate control, "an authorisation may only be granted if it is shown that socio-economic benefits outweigh the risk to human health or the environment arising from the use of the substance and if there are no suitable alternative substances or technologies."

3. TUR planning in the international Greenpeace rivers campaign

- World's rivers under increasing stress from industrial discharges and climate change
- Greenpeace now prioritizing six river systems including
  - Rio Chuelo, Argentina
  - Pearl River Delta, China

Southern China's Pearl River Delta

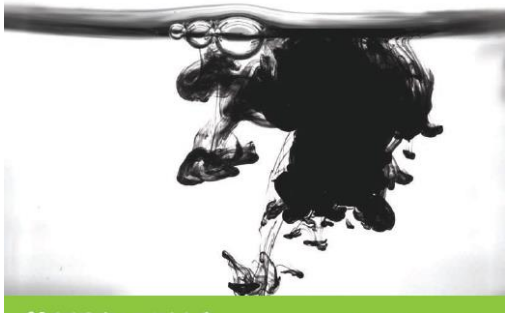
- Water pollution has become one of the most critical environmental problems in China. Today, as much as 70 percent of China's rivers, lakes, and reservoirs are not safe for human use.
- 90 million people drink water that fails global standards

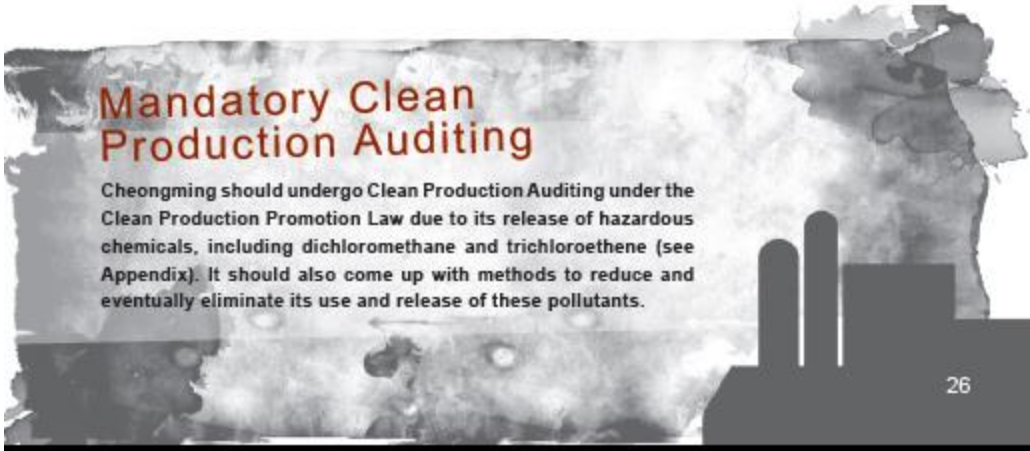
- Southern China's Pearl River Delta – also known as the 'world's factory floor' – is the main manufacturing hub for products "Made in China".

The Clean Production revolution in China

- GP China's demands include (cf TURA):

1. Targets and timelines to reduce/eliminate priority pollutants
2. Mandatory mass balance and substitution audits
3. Create well funded technical resources and training for SMEs

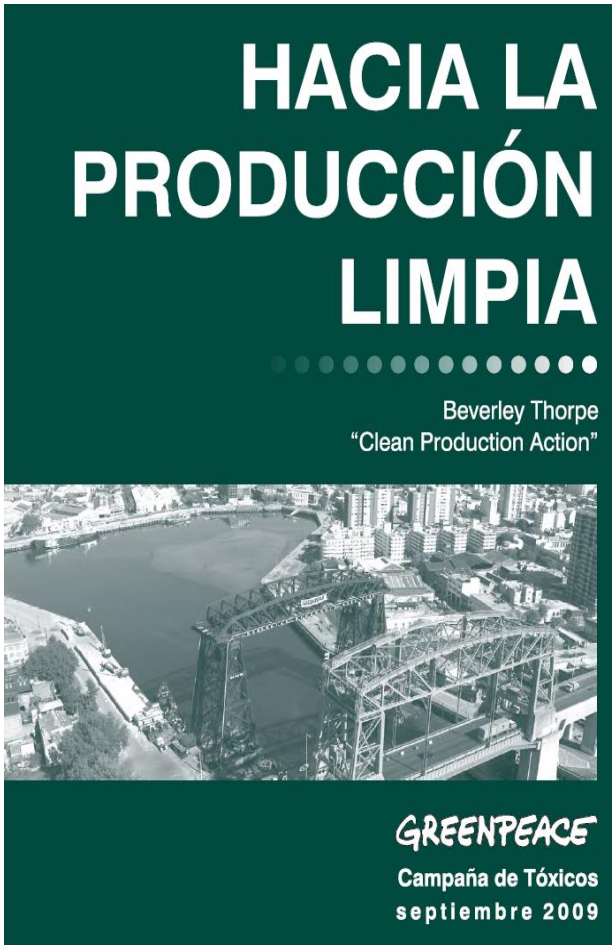


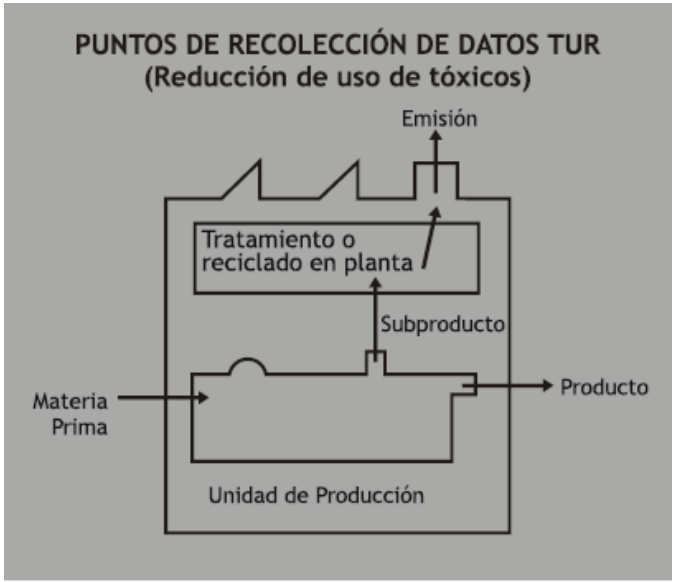


The Rio Chuelo river, Argentina

- 4100 factories cause the river to run black
- Citizen action resulted in law suit against government for lack of clean up
- Citizens now advocating clean production strategies based on TURA type planning, research and technical help

SECCIÓN III: COMO PUEDEN LAS EMPRESAS ELIMINAR EL USO DE SUSTANCIAS QUÍMICAS PELIGROSAS (EJEMPLO DE PLANIFICACIÓN DE REDUCCIÓN DEL USO DE TÓXICOS)





Thank you

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