

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

Beverley Thorpe



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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.

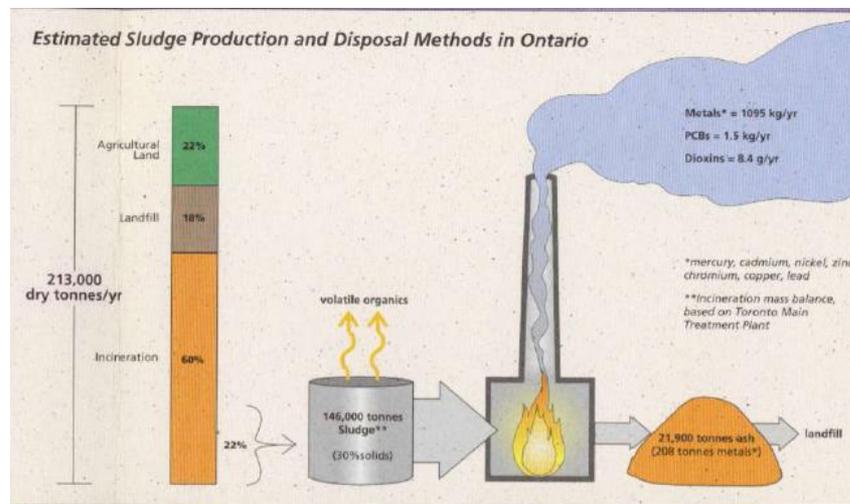


Protecting water quality in our streams, rivers and Lake Ontario

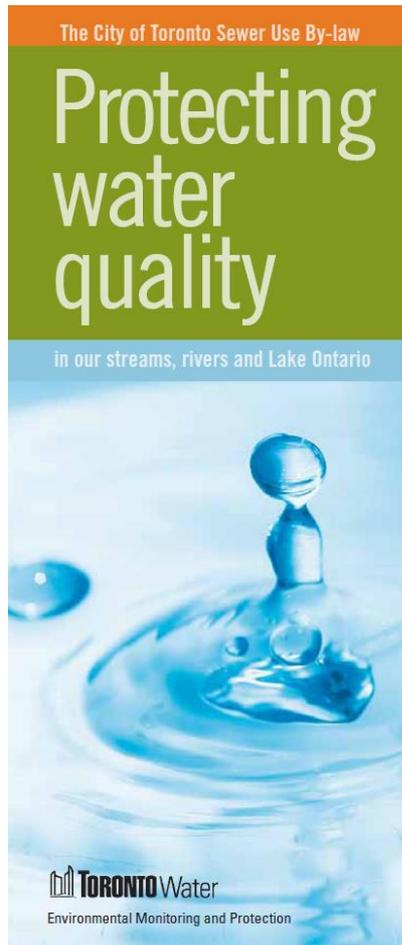
WWF Canada campaign on toxic discharges to sewer treatment plants calls for mandatory P2 planning

37% toxic effluents to Great Lakes ecosystem from STPs

Heavy metals, dioxins, PCBs etc from sewage sludge incineration



Revised Toronto sewer use bylaw (2000)

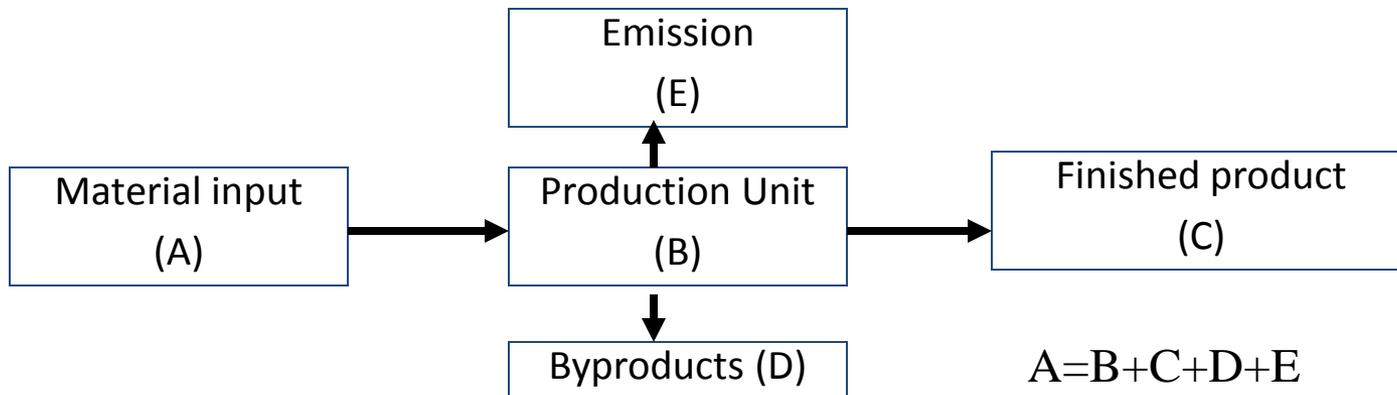


- 38 chemicals targeted
- Mandatory P2 planning and implementation
- Plan must have a mass balance audit
- Plans revised every 6 years with summary updates every 2 years
- Biosolids quality must be improved

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)

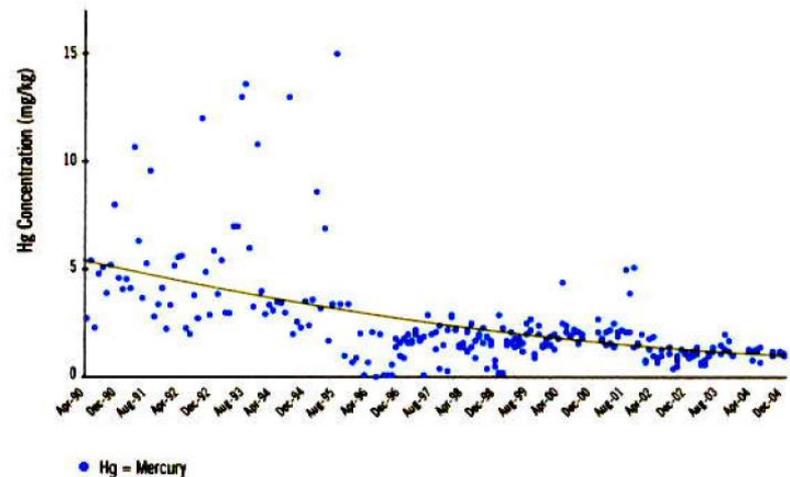


Heavy metal contamination in biosolids continue to fall allowing more beneficial uses

“ 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

Chemical of very high concern (identified by registration process)

Hazard Assessment
Are there registered alternatives not classed as 'substances of very high concern'?

Yes → Is the substitute free of other significant hazards?

No ↓

No ↓

Yes ↓

Socio-economic analysis
Does the product serve a useful/necessary social function?

No → Authorisation refused

Yes ↓

Risk Assessment
Do the benefits to society outweigh the risks of continued use?

No → Authorisation refused

Yes ↓

Have all the possible measures been taken to minimise the risk from temporary continued use?

No → Restrict use. Tighten control measures.

Yes ↓

Time limited authorisation granted with requirements for preparation of Substitution Plan

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".

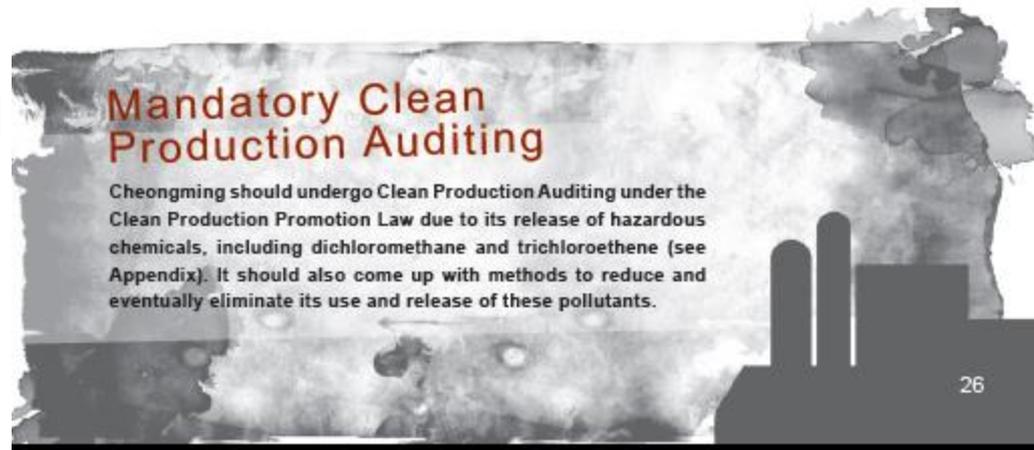
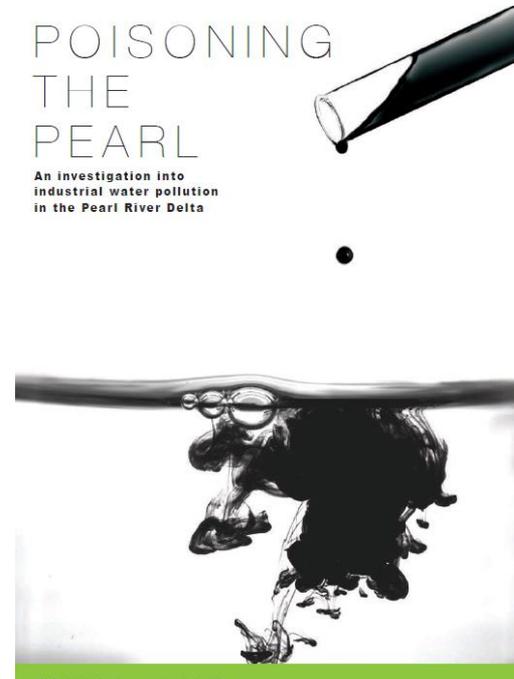


"I've been to many places that were severely affected by water pollution. I can't find any words to express my sorrow when I see the residents of the entire villages located next to factories are suffering from health problems. They dare not complain because they fear retribution. It also scares me when I see so many people eating food that has been grown in plots next to these sources of pollution. When will we say that 'enough is enough'? Without clean water, we don't have a future."

– Lai Yun, Toxics Campaigner for Greenpeace 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)

HACIA LA PRODUCCIÓN LIMPIA

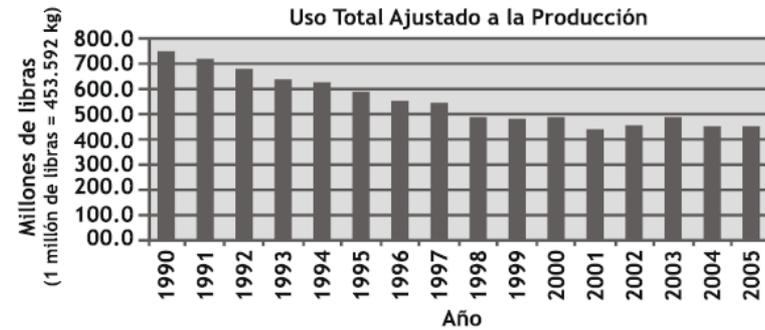
Beverley Thorpe
"Clean Production Action"



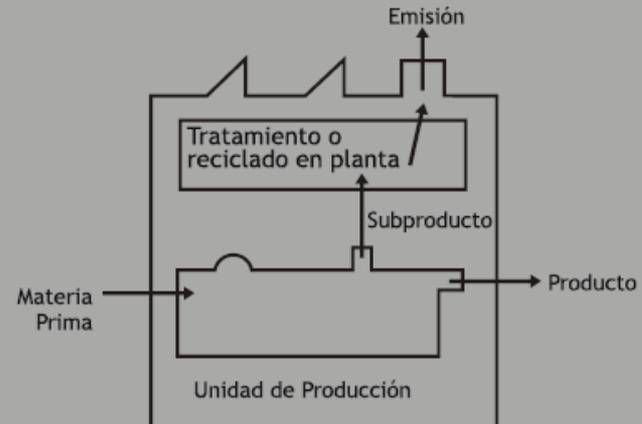
GREENPEACE

Campana de Tóxicos
septiembre 2009

REDUCCIONES EN EL USO DE TOXICOS 1990-2005



PUNTOS DE RECOLECCIÓN DE DATOS TUR (Reducción de uso de tóxicos)



Thank you



Beverley Thorpe

International Director

Clean Production Action

Bev@cleanproduction.org

+1 514 933 4596

www.cleanproduction.org

