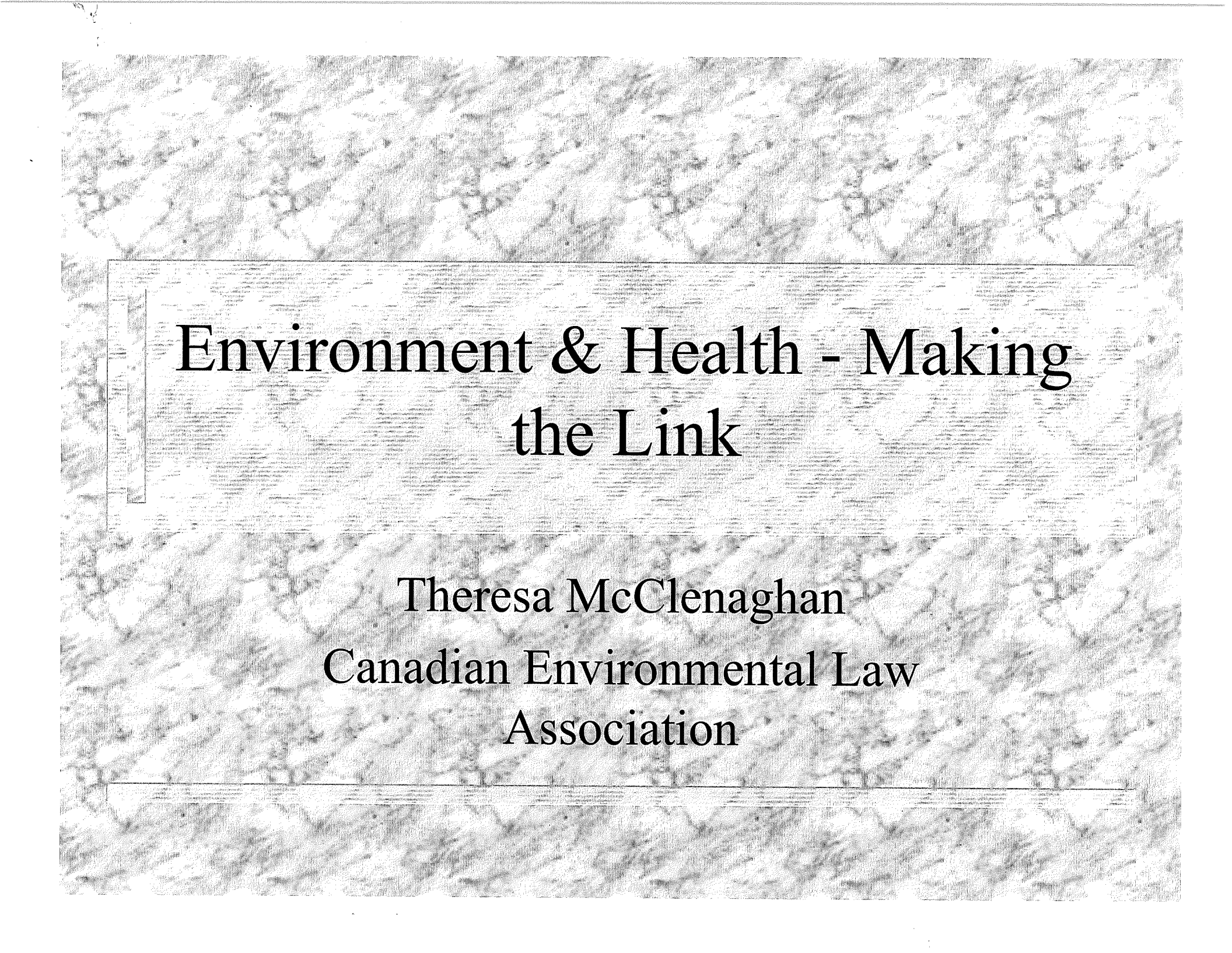




Environment & Health - Making the Link

Theresa McClenaghan
Canadian Environmental Law
Association

Prepared for CFUW Belleville

April 17, 2003

CELA

- Specialty Legal Aid Ontario clinic
- province wide mandate
- representation (financial criteria)
- summary advice
- public legal education and outreach
- law reform
- non LAO funded projects

What is the connection between environment and human health?

- To answer that question meaningfully, we need to look at specific examples
- I'll discuss some of my case and law reform work at CELA
- Especially, the Walkerton Inquiry, the Hudson Supreme Court decision, and two major children's health studies CELA has been involved in

Precautionary principle

- A constant theme in our work is that of including the precautionary principle in case and policy decisions, as well as in statutes, regulations and by-laws
- The statement of the precautionary principle that we prefer was formulated in Bergen, Switzerland, in 1990, and Canada was a signatory to that statement

Precautionary Principle

■ “Where there is a threat of serious or irreversible harm, a lack of full scientific certainty shall not be used as a reason to postpone or avoid measures to reduce or eliminate the risk.”

■ (paraphrase of precautionary statement as stated at Bergen, 1990)

Rio's version

■ At the Earth Summit in 1992, the precautionary statement was modified to include “cost effective measures”. This is the version that Canada has since incorporated in the Canadian Environmental Protection Act, the Oceans Act, recently in the amended Pest Control Products Act, and in other legislation

Canada's Discussion Paper

■ If you're interested in this issue, Canada issued a discussion paper late last year which proposed to treat the precautionary principle in Canadian policy as a step or approach within the risk assessment / risk management paradigm that pervades most environmental policy making and standard setting in Canada.

Case study #1 - the Walkerton tragedy

- This is an obvious situation where there was a tragic link between the environment and human health
- In this case, the environment in question had been affected by human activity - storage and spreading of manure in a vulnerable area, as well as by the circumstance of extremely heavy rains

Walkerton cont'd

- However, there were also a host of operational, policy and legislative factors that contributed to the tragedy, as found by Justice O'Connor in the Walkerton Inquiry
- The pathogens in the drinking water that made thousands of people ill in the Walkerton area, and that killed seven people, included E. coli 0157:H7, and campylobacter jejuni

Walkerton

- These pathogens were linked by DNA matching to both the ill patients and to the cattle on the farm neighbouring well 5, a shallow well that at the time had been brought on line and was supplying a large portion of Walkerton's drinking water
- The neighbouring farmer was a vet and followed almost all of the best management practices advocated by the Ministry of Agriculture

Walkerton

- The farmer did not even know that there was a municipal well in the vicinity of his farm. He had never been advised of this fact by the municipality
- The Inquiry found that the well had not originally been intended to be a long term solution; it was to be an interim solution, and the town was to have approached the prior owner to purchase the surrounding lands - but this never happened

Walkerton

■ The facts surrounding the pathogens reaching the town's water supply included that the winter's manure was stored on a concrete pad near the barn. However, there was no collection system for run off from the manure pile, so in rains, a certain amount of manure would have leached from the pile, especially in the severe rains of April and May 2000.

Walkerton

- In addition, the farmer had just spread much of the manure over that field immediately prior to the largest rain storms in early May
- The overburden allowed manure to infiltrate to the groundwater, especially the shallow aquifer. Much of it may have travelled extremely quickly in hours or days because of faster pathways to the aquifer like fence post holes, ditches, and cracks in the overburden

Walkerton

- To make matters worse, the Walkerton water supply was essentially unchlorinated at the time that massive amounts of contaminated groundwater reached well #5 and was pumped into the town's water supply.
- The operators had removed the chlorinator at another town well, and in addition, the operators did not routinely chlorinate to necessary levels for health protection

Walkerton

- The operators at Walkerton were under the mistaken assumption that their groundwater was always safe and that chlorination was an unnecessary beurocratic requirement of the Ministry of the Environment
- The Inquiry found that there was a long standing history of failure to chlorinate adequately, and of falsifying records

Walkerton

- The Walkerton operators were not alone in their assumption that groundwater supplies were necessarily safe. Many other witnesses at the Walkerton Inquiry testified that that had always been their understanding.
- Even some of the Ministry of Environment inspectors did not know that pathogens in water could be fatal according to their testimony

Walkerton

- Added to the nexus between the farm as the source of pathogens and the well, as well as the operational problems at Walkerton, was a failure on the part of oversight agencies to detect problems in the safety systems
- Ministry of Environment inspections had noted problems, notably an inspection by Michelle Zillinger in 1998, who called for mandatory abatement

Walkerton

- However, her recommendation for an order and mandatory follow-up was over-ruled by her supervisor in the Ministry of Environment, who, like most of his colleagues, preferred a voluntary approach to compliance
- Based simply on a letter from the operator, Stan Koebel, that he would comply, the Ministry closed the file without verification

Walkerton

- In addition to the failure of the Ministry of Environment's oversight, the Bruce Grey Owen Sound Health Unit also was unable to detect and prevent the problems leading up to the Walkerton tragedy
- One of the primary reasons for this was that the health unit was no longer receiving adverse lab results from the water testing after the province privatized municipal water testing in 1996

Walkerton

- The Inquiry heard a great deal of evidence about concerns and warnings voiced by provincial labs staff and even the province's chief medical officer of health at the time, Dr. Richard Schabas, about the gap in oversight that would be left by the change
- The biggest concern was that the adverse reporting protocol was contained only in a guideline and private labs were not informed of these requirements

Walkerton

- Walkerton was fortunate for several years in that the private lab they used was founded by Dr. Gary Palmateer, who had previously been at the provincial lab, and he continued the prior protocol of informing the Ministry of Environment staff of all adverse results
- However, the Ministry of Environment staff did not forward results to the health unit and so from 1996 to 2000 the health unit had no records of the Walkerton water supply

Walkerton

■ Part of the tragedy in this was that the only entity with any statutory responsibility for safe drinking water prior to the Walkerton tragedy was the local medical officer of health who had the authority to determine the potability of municipal water supplies

Walkerton

- The people at Walkerton were very hopeful that the legacy of Walkerton would be recommendations that would be implemented in order to prevent a similar tragedy in Ontario in the future
- The Ontario government committed to implementing all of the Walkerton Inquiry recommendations, both from phase I and phase II

Walkerton

- In addition to substantially revised regulations passed in August of 2000, immediately after the tragedy, the government has also proceeded to pass the Safe Drinking Water Act and the Sustainable Water and Sewer Systems Act.
- They passed the Nutrient Management Act during the Walkerton Inquiry, and have recently consulted on its regulations

Walkerton

- Unfortunately, as a result of reaction to the proposed regulations by much of the agriculture community, the government has decided to proceed at this time only with the new, expanding and largest farms in terms of preparing nutrient management plans and strategies.
- All remaining farms will be subject to a consultation and will not be covered before 2008, if then

Walkerton

■ Among the most important of Justice O'Connor's recommendations were the 22 recommendations concerned with source protection

■ We have been extremely concerned about whether the government is going to proceed with the source protection recommendations

Walkerton

- Source protection was identified in the Walkerton Inquiry as the essential first barrier in a multi-barrier approach to protection of drinking water
- The North Battleford Inquiry released the same year arrived at the same conclusion
- the OWWA which represents water system operators and owners notes that it is far more cost effective to protect sources than to rely on treatment

Walkerton

■ In addition, there are many parameters which cannot be treated by reasonable water system technology, but which still present important public health issues. One example is nitrates, usually from agricultural operations, which at even half of the drinking water limit can present an elevated SIDS risk to infants, according to testimony at the Inquiry

Walkerton

- When the province introduced the Safe Drinking Water Act in the fall, it announced a provincial advisory committee to develop a framework for drinking water source protection
- I sat on that committee and we have just recently provided our report to the Minister; I am expecting its public release for consultation any day

Walkerton

■ This type of release is posted to the province's Environmental Bill of Rights Registry

Children's Health and Standard Setting

■ Turning from a case study to a law reform study, CELA published the Children's Health and Standard Setting Study in May, 2000. In fact, at our annual general meeting during which we released the study, the reporter's questions to us focussed on the Walkerton tragedy of which the media had just that day become aware

Children's Health and Standard Setting

- CELA prepared that study in conjunction with the Ontario College of Family Physicians, Environment Committee
- Our basic research question was whether environmental standard setting in Canada is intentionally protective of children's health
- We looked in detail at two case studies surrounding lead and pesticides regulation

Standard Setting

- We also looked at regulation of air standards, and at consumer products.
- Our inquiry considered both federal and provincial standard setting.
- Our findings were that to that point, standard setting in Canada had not been intentionally protective of children's health.

Standard Setting

- We found that the approach to standard setting in Canada is framed in a risk assessment / risk management paradigm which allows many assumptions and even cost considerations to be buried in the final standard
- In many cases, the special needs, circumstances and pathways applicable to children were not taken into account in the risk assessments

Standard Setting

- Since we released that study, there have been many developments in various of the Canadian approaches to setting standards and the impacts on children are beginning to be taken into account in a more thorough manner
- For example, the recently amended Pest Control Products Act expressly includes several child-protective factors

Standard Setting

- In Ontario, most air standards targets are now set taking account of the most vulnerable population, whether that is children, other members of the community or other species.
- However, the interim targets are often not the health protective standards because of technology and cost implications

Standard Setting

- In addition, some of the most troublesome of the air standards were referred to the federal-provincial standard setting process under the Canadian Council of Ministers of the Environment, which is a consensus based approach
- Mercury, benzene and small particulates, PM10, have not been set at health protective levels in this process due to economic considerations

Commission for Environmental Cooperation

- One of the other developments in the last three years has been a focus on children's health issues in the context of the CEC
- The CEC was formed as a result of the NAFTA agreement and is a tri-national body, including Canada, the U.S. and Mexico

CEC

- Two of CELA's staff, Kathleen Cooper and myself are co-authors of a new CEC report, just about to be published, titled "Toxic Chemicals and Children's Health in North America"
- It will be available on the CEC web site or can be ordered
- This report underscores many of the findings in the CELA/CAPE study, as true across North America

CEC

- The report notes that despite some decreases in releases, over one-half million tonnes of known or suspected carcinogens are released annually in Canada and the US; and over 2 million tonnes of known or suspected neurological toxicants
- These figures include only the largest facilities and do not include pesticides or other agriculture toxics, or other toxics not included in the national registries

CEC

The report reiterates some of the reasons that children have different vulnerability to toxic chemicals are that

- * they are closer to the ground and floor where contaminated dust and dirt accumulates
- * they are more likely to eat contaminated soil and dust

CEC

- *they are outside more
- *at birth the child's ability to break down and eliminate pollutants is poorly developed
- *depending upon their stage of development, they may be less able to break down, excrete, activate or in activate toxics
- *children have more years to live so longer latency periods have an opportunity to manifest as cancer or other illness

CEC

- *Children's rapid growth and development leave them with "windows of vulnerability" during which their systems may be extra sensitive with potential impacts on behaviour, disease and development
- *Among the concerns are acute poisonings, cancer, developmental impacts, learning and behavioural disabilities, impaired brain development, birth defects, asthma and other respiratory diseases

CEC

■ The CEC report concludes that more action is needed to increase efforts to reduce releases of chemicals into the environment, reduce children's exposure to toxic chemicals and improve monitoring of chemicals and children's health

■ "Toxic chemicals are a largely preventable factor in many childhood diseases," says the report

CEC

- *Among the major sources of chemicals from which children receive exposure are pesticides, manufacturing plants, electricity generating plants, waste treatment plants, gas stations, dry cleaners, mining, forestry, farming and fishing, vehicles and construction equipment, consumer products such as toys, paints, solvents, household cleaners, building materials, and natural sources such as fire and erosion

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- The pathways of most concern include exposure from air, water, food, land & soil, consumer products, in utero exposure and breastfeeding
- Chapter 4 of the CEC report explored some of the actions, regulations and programs underway to help protect children from toxic chemicals

CEC

- Various jurisdictions have different opportunities to act.
- The report noted the recent Supreme Court of Canada decision in the Hudson Quebec pesticides by-law, in which I was involved for a group of interveners, as upholding the right of municipalities to control urban pesticide use

CEC

- There are actions directed at reducing releases of toxic chemicals, such as pollution prevention programs and emission standards; bans and phase-outs
- There are actions to reduce children's exposure such as soil replacement, products recalls, removal of contaminants in toys and pottery, and fish consumption warnings

CEC

- There are improvements to monitoring and surveillance of children's health, with more to be done
- There are actions to improve chemical monitoring in the environment and in humans such as the U.S. EPA's biomonitoring survey which has just released very significant results for mercury among other substances

CEC

- Through the CEC itself, all three North American countries have committed to the Cooperative Agenda for Children's Environmental Health in 2002, which begins by targeting respiratory diseases, lead and other toxic chemicals
- The report provides guidance to parents, teachers and relatives and if you're looking at the report, look at Chapter 5.

CEC

■ In Canada you can search the NPRI, the National Pollutant Release Inventory, either directly through their web site at www.ec.gc.ca/pdb, which includes a postal code search, or through the Pollution Watch web site which CELA sponsors along with CEDF and CIELAP. You can reach it through our web site.

CEC

- You can also see North American information on the CEC Taking Stock web site
- There are several practical guidelines available, some of which are listed in the CEC report, with suggestions to reduce childrens' toxic loadings.

CEC

■ There are also list serves and newsletters including those run by the Children's Health Environmental Coalition and the Children's Health Environmental Health Network

■ Credit: "Toxic Chemicals and Children's Health in North America", forthcoming, published by the Secretariat of the CEC

Environment & Health - Making the Connection

- The connection between environment & health is constant vigilance
- The tragedy in Walkerton demonstrated the vulnerability of our most basic systems to environmental degradation if we take them for granted
- Both the experience of Walkerton and the studies I have explored today reinforce that we have the potential to reduce environmental risks

Connection

- Only through constant vigilance, however, will risk reduction be realized
- This is true for our water supply, for the forthcoming drinking water source protection framework and for toxics reduction
- Vigilance must be accompanied by strict legislative and regulatory improvements

Connection

■ We also need a society-wide shift reflecting the need to change our production methods, our waste emission and disposal systems, and our use of certain products such as lead and pesticides