

**Time to Show the Money: the Toxics
Reduction Act, 2009**

**Submission on Bill 167 to the Standing
Committee on General Government**

May 13, 2009

**The Registered Nurses' Association of
Ontario (RNAO)**

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RNAO Submission on Bill 167

Summary of Recommendations

RNAO recommends support for Bill 167, with the following amendments:

1. Include in the preamble an endorsement of the principles of the *Canadian Environmental Protection Act* – specifically the precautionary principle, pollution prevention, virtual elimination of persistent and bioaccumulative toxic substances, and the “polluter pays” principle.
2. Add to the purposes of the Bill the following:
 - the reduction or elimination of toxic releases (and not just their use and creation)
 - promotion of safer alternatives to toxics
 - recognition of Ontarians' right to know the identity and amounts of toxics that are used, created, occur in consumer products or are released into the environment or workplace
 - application of the precautionary principle and principles of sustainable development to the above goals.
3. Include aggressive targets for reductions in the use, creation and release of toxics, including:
 - a 50 per cent reduction in toxic releases within five years of the Act coming into force;
 - a 20 per cent reduction in toxic use within five years; and
 - a 40 per cent reduction in toxic use within ten years.
4. Commit in the preamble to the goal of comprehensive coverage of toxics, and not just to coverage of a limited number of toxics or to a limited number of industries, or to the very large users and creators of toxics. All emitters and users who reach threshold levels must report. Reporting thresholds must be significantly lower than those of the National Pollutant Release Inventory, and they must be lowered over time.
5. Include mandatory substitution of safer alternatives for toxic substances in production processes.
6. Fund programs and institutions required to implement the toxics reduction strategy from the users and emitters of toxics. The funding formula should be based on use and emission, with the weighting towards emissions.
7. Establish an independent academically-based institute to build capacity to meet the requirements of the toxics reduction, safe substitution and green chemistry. This would include support to businesses, employees and communities.
8. Ensure public right to know about toxics in their environment, workplaces and products by:

- collecting all necessary toxics data and making it available in a readily searchable format;
 - making available not only data collected under this Act, but also under all other environmental legislation; and
 - identifying toxic content in products through labeling or by other understandable means.
9. Confirm the immediate commitment to regulating toxics, including labeling of toxics in products, by amending Subsection 49 (1) of the Bill as per section 64 of the Bill.
 10. In the event of conflicts between the Act and other municipal bylaws or other provincial environmental legislation, allow to prevail the provision which is the most protective of health or the environment.
 11. Include in the contents of the plan to reduce toxic substances (Sections 4 and 5) a statement of intent to reduce the discharge of toxics to the air, land or water.

Introduction

The Registered Nurses' Association of Ontario (RNAO) is the professional organization for registered nurses who practise in all roles and sectors across this province. Our mandate is to advocate for healthy public policy and for the role of registered nurses in enhancing the health of Ontarians. We welcome this opportunity to present our submission on Bill 167, *the Toxics Reduction Act, 2009*, to the Standing Committee on General Government.

RNAO¹ and its partner organizations² welcomed Bill 167 as an important first step in moving a toxics reduction agenda forward, which in turn is a central part of Ontario's green economic strategy. RNAO has very high expectations for the Bill, as we know from consistent polling that Ontarians strongly support very protective legislation that both delivers quick and meaningful right to know and sharp reductions in toxics released into the environment and in the products Ontarians consume. Now is the time to move, and to move decisively.

Bill 167 as currently drafted is framework legislation that relies for its effect on strong regulations. RNAO will work very hard to get the strongest regulations possible supporting the Bill, but we would be much more confident in a Bill that delivered more upfront. Accordingly, we will support the Bill, but request a series of amendments to strengthen it.

Background

The Legislative Agenda

In the 2007 provincial election, the Liberal Party promised to ban the cosmetic use of pesticides and to “create a tough new toxic reduction law that requires companies that emit toxic pollution to reduce their emissions over time.” In June 2008, the Government passed Bill 64 on cosmetic use of pesticides and on April 22, 2009, the *Cosmetic Pesticides Act* came into force with the most health protective regulations governing lawn and garden pesticides in North America. RNAO hailed that significant milestone.³

The Government has also moved on toxics. It first consulted with stakeholders, and released the toxics reduction discussion paper for public consultation on August 27, 2008. On April 7, 2009, it introduced Bill 167 on toxics reduction. There are grounds for urgent action; as the discussion document itself notes, Ontario has the dubious distinction of being one of the worst emitters of toxics in North America.

Health Risks of Toxics

Ontario's dismal toxics track record is alarming, because chronic conditions such as asthma, cancer, developmental disabilities, and birth defects have become the primary causes of illness and death in children in industrialized countries, and there is growing expert recognition that chemicals in the environment are partly responsible for these trends.⁴ The Ministry's own discussion document on toxics reduction identified the above adverse pollution outcomes in children, and added the following: learning and behavioural disabilities.⁵ We know the exposure is there: large numbers of dangerous chemicals showed up in the blood of Canadians tested for toxics.^{6 7 8 9}

Of particular concern is the safety of children, who are much more vulnerable to toxics. They are exposed to more toxics per body weight, absorb ingested substances differently, have developed fewer protections against toxics, face additional risks while undergoing development, face higher exposures due to activity and behaviours, and have much more time to develop disease from toxics.^{10 11 12 13 14} A Canadian government study points to some alarming data and trends: cancer is one of the three biggest killers of children ages one to four; the increased incidence of certain types of cancers in young adults may be related to childhood exposures; and the prevalence of childhood asthma has quadrupled over two decades, in spite of falling exposure to one known cause of asthma, second-hand cigarette smoke.¹⁵

The problem in Ontario is huge, and measures are very incomplete, but the following give some sense of minimum scale of the costs:

- The cumulative cost in Canada of four environmentally-related outcomes alone (diabetes; Parkinson's disease; neurodevelopmental effects and hypothyroidism; and neurodevelopmental effects and IQ deficits) is in the range of \$46 billion-\$52 billion/year, of which up to 50 per cent could be environmentally caused.¹⁶ The annual cost to Ontario for those four outcomes alone could thus range up to \$10 billion;¹⁷
- The Ontario Medical Association has concluded that 9,500 deaths per year in Ontario are attributable to a limited number of air pollutants alone, and the health costs associated with these pollutants runs is more than \$8 billion per year.^{18 19}
- The WSIB has paid out millions in compensation for occupational cancers, which represent a minority of the total occupational cancers and occupational disease.

Ontario's Economy Needs a Toxics Reduction Program Now

The Canadian and Ontario economies are experiencing unprecedented stress and abrupt change. The costs to those working in affected industries are dramatic. Many are losing their jobs; replacement jobs often fail to provide an adequate package of wages and benefits; and workers' pensions in many cases are under threat. Rapid and brutal restructuring are the order of the day.

However, the campaign for a cleaner environment must complement, not be viewed as antagonistic to the creation and protection of good jobs. Indeed, Ontario must focus on a green economic recovery. Change is happening, and we must get it right. The economy and businesses require a supportive hand to direct our system during the inevitable restructuring to a more sustainable, greener economy. Bill 150, the *Green Energy and Green Economy Act* would provide substantial resources to conserve energy and increase cleaner renewable energy. Similar assistance is required on the toxics front. The costs of toxics pollution are simply too high.

In fact, taking action on toxics is good for business and trade. Toxic use reduction proved on balance to save companies money in Massachusetts (over \$14 million net, and the program was funded out of user fees),²⁰ so it should not be feared in Ontario. If the government elects to fund the program to start with, then there will not even be the up-front cost confronting cash-strapped corporations. Moreover, this assistance will give Ontario exporters a necessary boost in complying with the European Union's Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH)

program. REACH began to come into effect in 2008, and will soon require all suppliers to the European Union to meet more stringent chemical regulatory standards.

Some chemical industry representatives argue that provinces should leave toxics reduction up to the federal government under its Chemicals Management Plan (CMP).²¹ To this, we respond that provinces have the power and duty to manage toxics in their jurisdiction. In spite of any federal programs, Ontario's toxics record is deplorable and demands immediate action of the type that Bill 167 promises. If the federal CMP ever starts to change the situation in Ontario and across the country, we will be grateful, but we cannot wait any longer. Waiting on the CMP is just an excuse for inaction. Successful toxics reduction in Ontario will act as a spur to similar action across the country.

Public Support for Toxics Reduction

There is very strong public support for action on toxics. In particular, there is a high level of support for community right to know about toxics in the environment, the workplace and in products, as was revealed when Toronto City Council overwhelmingly supported its own right-to-know program and bylaw in December 2008.²²

Polling by Ipsos Reid shows overwhelming support in Ontario for toxics reduction: 96 per cent support the strategy to have businesses develop toxics reduction plans; 99 per cent say they have the right to know about toxics in products; and 96 per cent say they have the right to know about toxics in the workplace.²³ Much as with cosmetic use of pesticides, the public is very strongly on-side.

The Campaign Against Toxics

RNs have a strong sense of urgency about toxics, because any delays mean more people become sick and die, every day. RNs across Canada share this concern, as reflected in the 2008 Canadian Nurses' Association resolution on Environmental Determinants of Health, which called on its member associations to: "promote federal and provincial legislation codifying community right to know about carcinogens and toxics released into the environment, into the workplace, and in consumer products".²⁴ The resolution also endorsed the principles of the *Canada Health Act* – specifically the precautionary principle, virtual elimination of persistent and bioaccumulative toxic substances, and the "polluter pays" principle²⁵

RNAO has been working with a broad range of health and environmental partners in the Take Charge on Toxics campaign to promote sharp reductions in the use and release of carcinogens and other toxics in Ontario. Those partners include the Canadian Cancer Society, the Ontario College of Family Physicians, the Canadian Association of Physicians for the Environment, the Ontario Public Health Association, the Toronto Cancer Prevention Coalition, the United Steelworkers and the Canadian Environmental Law Association (CELA).²⁶ There is remarkable consensus among these health, environment and labour groups about the need for quick action and about the specifics of what must be done.

Elements of Effective Toxics Reduction Legislation

The key consensus elements in effective toxics reduction legislation include:

- **Ambitious targets for reductions in use, creation and release of toxics,** including a 50 per cent reduction in releases within five years. Large reductions

- are very feasible, as we know that among participating firms, Massachusetts achieved the following per unit reductions over the period from 1990 to 2004 (Ontario is modeling its approach on Massachusetts' toxic use reduction legislation):
- toxic chemical use by 41%;
 - toxic wastes by 65% (referred to as byproducts);
 - toxic chemicals shipped in products by 58%; and,
 - on-site releases by 91%.²⁷
- **Reaffirmation of community right to know about toxics in the environment, in the workplace, and in products** (including labeling).
 - **Mandatory substitution of safer materials for toxic substances.**
 - **Establishment of a toxics use reduction institute to advance provincial capacity for toxic use reduction, safe substitution, green chemistry, education and information outreach.** This institute would provide technical information and training to businesses, labour and the public to facilitate transition to a system that uses safer chemicals and greatly reduces the use and release of toxics. This institute must have a stable and adequate funding base, and would preferably be funded by fees on toxic use and toxic release. These fees would also serve as an impetus for firms to reduce their use of toxics. If the government is currently reluctant to implement these fees, then it must adequately fund the institute itself until such time as fees are implemented.
 - **Annual reporting on progress in use, creation and release of toxics.**

Bill 167

Bill 167 is modeled on the Massachusetts *Toxics Use Reduction Act*, and includes the following features:

1. Its stated goals are to prevent pollution and protect human and environmental health by reducing the use and creation of toxics; and to inform Ontarians about toxics.
2. It would require materials accounting for use, creation and release of specified toxics, and would mandate toxics reduction plans by firms, with those plans to be certified by registered planners. Implementation of those plans would be voluntary.
3. It would require reporting to the Ministry on toxics use, creation and release of toxics, and public disclosure of toxics reduction plan summaries and other data mandated by regulation.
4. It has a number of compliance and enforcement provisions.
5. It would obligate the Minister to periodically (at least every five years) consult with experts and the public about the lists of prescribed substances and substances of concern.
6. It would confer on Cabinet the power to ban or regulate the manufacture, sale and distribution of toxic substances or of products containing toxic substances or substances of concern. This could include labeling of toxics in consumer products.

RNAO Response to Bill 167

General Observations

RNAO joined its partners in hailing the introduction of Bill 167 as an important step forward in reducing the risk to human and environmental health.^{28 29} It did so in recognition of the courage required to take the step in the face of concerted opposition. However, RNAO cautioned at the time that it was important for implementation to take place during the current government's mandate, and that the Bill must be strengthened in a number of areas. Below, we will elaborate with a series of recommended amendments.

We start with a caveat. The Bill is not a substitute for strong regulation of pollution, which requires stronger commitment. However, the Bill must become an important tool in the fight for human and environmental health, and we must get it right. As written, it is framework legislation, and the outcome will only be as good as the associated regulations. Strong regulations combined with adequate government support could make this Bill an environmental turning point in Ontario.

At this point, the Bill is all promise, and more is required upfront, and quickly, as action is required now, to slow and reverse the poisoning of our province. Lives and health hang in the balance. We know that many in industry will avail themselves of any opportunity to delay, and the longer we wait, the greater are the human losses and damage to the environment. There are a number of steps that could be taken to make the toxics reduction agenda more credible. That would include committing more than the promised \$41 million and it would include amending the Bill itself to put in essential features that otherwise can only possibly enter via regulations. It is much better and stronger for these features to be enshrined in legislation, rather than entering in some uncertain, less transparent and less permanent way through regulations.

Specific Comments on Bill 167

Purposes of the Bill

The stated purposes of pollution prevention through reducing use and creation of toxics and informing Ontarians about toxics are a good start, but they should be augmented by the following (as per the model toxics use reduction bill written by the Canadian Environmental Law Association (CELA)):³⁰

- the goal of reducing or eliminating toxic releases (and not just use and creation)
- promotion of safer alternatives to toxics
- recognition of Ontarians' right to know the identity and amounts of toxics that are used, created, occur in consumer products or are released into the environment or workplace
- application of the precautionary principle³¹ and principles of sustainable development³² to the above goals.

Targets

Targets for reduction in use and release of toxics are an essential element of the legislation, much as they are essential to any program seeking to effect change. They were part of Massachusetts' successful toxics use reduction legislation; and the Ministry's own Toxics Reduction Scientific Expert Panel called for toxics reduction

numerical goals, in both its July 23 and December 31 memoranda to the Minister. CELA's model toxics use reduction bill calls for substantial targets which we endorse:

- a 50 per cent reduction in toxic releases within five years of the Act coming into force;
- a 20 per cent reduction in toxic use within five years; and
- a 40 per cent reduction in toxic use within ten years.

Who Reports and What Gets Reported

As currently drafted, the Bill leaves to regulations who reports and what gets reported, but if the government's discussion document is a guide,³³ the coverage would be very light:

- **Only prescribed toxics must be reported**, and in the first phase only 45 toxics would be reported,^{34 35} while there are 367 on the 2008 National Pollutant Release Inventory (NPRI) list alone³⁶ and the discussion document mentioned a further 135 toxic non-NPRI chemicals.³⁷ CELA called for Phase 1 reporting on all NPRI substances and reviewing the list of non-NPRI toxics with a view to reporting more of them than initially discussed (20 out of the 135 were initially proposed for Phase 1 inclusion).³⁸
- **The reporting threshold would be very high:** firms would have to use toxics in volumes reportable under NPRI (10,000 kilograms annually for most toxics) **and** employ at least ten full-time equivalent workers. This threshold is very problematic, as smaller emitters are responsible for much of the total emissions: Toronto estimated that only three per cent of its toxics emitters were reporting to NPRI,³⁹ and this meant that over 80 per cent of toxic releases were not reported.⁴⁰ Toronto's bylaw has a much lower threshold: the default is 100 kilograms per year, which is one per cent of the NPRI threshold.⁴¹
- **Only prescribed industries would be covered.** The discussion document only proposes covering the manufacturing and mineral processing sectors.⁴² That would omit 25 per cent of emissions from NPRI reporting, which in itself only captures the largest emitters.⁴³ There is no *a priori* reason to exclude emitters who reach reporting thresholds, irrespective of their industry. The government's Toxics Reduction Scientific Expert Panel recommended extending coverage to all sectors meeting regulatory thresholds (in its July 23 and December 31 memoranda).

Mandatory Substitution

While the regime described in the Bill is for mandatory toxics reduction planning and voluntary implementation of those plans, the government should now introduce mandatory substitution of toxic chemicals in production processes with substitutes known to be safer.

Funding the Programs and Institutions to Implement the Act

There is no funding mechanism specified in the Bill to pay for programs and institutions needed to successfully implement the Act. Massachusetts funds its essential Toxics Use Reduction Institute from fees on users of toxics. To date, the only government commitment is for \$41 million over four years. CELA calls for a toxics use fee on facilities subject to the Act and on toxics use reduction and on safer alternatives planners seeking certification under the Act.⁴⁴ To RNAO, concentrating the levy on releases of toxics would provide additional incentive to reduce those releases, which is a principal objective of this legislation.

Create an Independent, University-Based Toxics Use Reduction Institute

The government's Toxics Reduction Scientific Expert Panel recommended in both its July 23 and December 31 2008 memoranda the establishment of an independent, academic institute with stable funding. That institute would build capacity to assess chemicals and support pollution prevention through substitution and more efficient use of chemicals. The Expert Panel also called for funding of a toxic use reduction strategy through fees on the regulated community. As CELA points out, technical assistance must be available to both businesses and to employees.⁴⁵ It should also be available to communities.

Right to Know

The mandatory toxic reduction plans ask firms to find ways of reducing the use and creation of toxics, but they do not ask them to find ways of reducing releases of toxics which are used or created. Since the goal of the legislation is pollution prevention, adding this one step to plans would seem to make sense.

These reports on the toxics reduction plans are prescribed by regulation and report on tracking and quantification (toxic substance accounting) of introduction, creation, transformation, destruction and exit of prescribed toxics in the production process. They also describe steps taken towards toxics reduction, assess the effectiveness of these steps, and describe amendments to the plan. If required by the regulations, the facility will be obliged to make some or all of the report available to the public. The facility will also be obliged to report on prescribed substances of concern to government, which may in future elect to prescribe them as toxic substances.

The public interest is best served by having the greatest availability possible of this data organized in some readily searchable way. While legitimate concerns about private information must be considered, the public's need to know about threats to health or the environment must take priority over concerns about proprietary knowledge. Moreover, as CELA recommends, the public right to know should extend to other information collected under other environmental legislation.⁴⁶ The public should also have the right to request reviews by the Minister of toxic use reduction plans⁴⁷ and to bring actions in the Superior Court of Ontario for failure to comply with specified reporting requirements under the Act (in the event that some future government fails to ensure compliance).⁴⁸

Regulations

This is framework legislation, and the real substance of the bill is left to regulation. Accordingly, the bill gives broad authority to regulate. Section 49 addresses prescribing toxics, threshold reporting levels, requirements for plans, requirements for plan summaries, requirements for plan reports, and enforcement. It also gives blanket power to exempt persons or things from any provision in the Act.

The most powerful regulatory powers appear as amendments to the bill, which are characterized in the Compendium to the Act as intended to allow for consumer products to be regulated ("The following sections identify proposed amendments to previous sections of the legislation that would come into effect when and if a regulation relating to consumer products (clauses 49(1) (n.1) and 49(1) (n.2)) was made. These sections would not come into effect until proclaimed. Therefore these sections would not be

enacted along with the rest of the proposed legislation until such a time that the above mentioned regulations are promulgated.”)

The amendment reads as follows:

“64. Subsection 49 (1) of this Act is amended by adding the following clauses:

(n.1) prohibiting or regulating the manufacturing, sale or distribution of,

(i) a toxic substance, a substance of concern or any other substance prescribed by the regulations, or

(ii) anything that contains a toxic substance, a substance of concern or any other substance prescribed by the regulations;

(n.2) prescribing circumstances in which a person who manufactures, sells or distributes a substance or thing referred to in sub clause (n.1) (i) or (ii) is required to give notice to the public or to specified persons and governing the notice, including the contents and manner of giving the notice;”

The amendment would appear to give authority to prohibit or regulate any toxic substance or substance of concern, and not just if it appears in a consumer product. Used in a judicious and aggressive way, this could greatly enhance health and environmental protection.

However, we have two concerns with the regulatory section. First, it does give regulatory scope to do much of what would be required for toxics reduction, but as already pointed out, these measures would be better spelled out in legislation. Secondly, we are confused by the appearance of the most powerful portion of the regulation section appearing as an amendment to the regulation section. To the extent that this Bill after amendments still requires regulations to be fully effective, the regulatory section should confer all necessary regulatory authority and not require amending sections which could delay regulation.

Conflicts with Municipal or Provincial Legislation

Ontario's otherwise laudable *Cosmetic Pesticide Act* had one troubling feature – it rendered invalid existing municipal pesticide bylaws. This prevented municipalities from raising protection above the level afforded by the province, which was a departure from the practice with the *Smoke-Free Ontario Act*. The latter imposed strict controls on public smoking, but left in place existing municipal bylaws, so that municipalities could impose more stringent protections against second-hand smoke. Thus, the *Cosmetic Pesticide Act* has a potentially chilling effect on municipal bylaws. Indeed, Toronto's excellent Environmental Reporting, Disclosure and Innovation (right to know) Program⁴⁹ was at risk of delay or worse over fears that any Toronto investment in it could be subsequently voided by the coming *Toxics Reduction Act*.

Bill 167 is silent on the matter of municipal bylaws, but the Ontario government has signaled to Toronto that it has no intention to invalidate its right-to-know legislation. Certainly, this would be consistent with the stance of the Toxics Reduction Scientific Expert Panel, which called for harmonization of the reporting structure for toxics reduction with federal and municipal initiatives (in its December 31 2008 memorandum to the Minister). Nevertheless, it would be more reassuring if conflicts between Bill 167 and municipal bylaws (and for that matter, conflicts between Bill 167 and other provincial legislation) were resolved by allowing to prevail the provision which is the most protective of human health or the environment (as recommended by CELA).⁵⁰

Conclusion

In sum, Bill 167 represents an important step in the right direction, but RNAO cannot support toxics reduction legislation that does not meet the significant concerns cited here, and which our many health and environmental partners share. RNAO will continue to work with Ministry officials to help ensure that Ontarians receive the high level of protection from toxics that they need and deserve.

Recommendations

RNAO recommends support for Bill 167, with the following amendments:

1. Include in the preamble an endorsement of the principles of the *Canadian Environmental Protection Act* – specifically the precautionary principle,⁵¹ pollution prevention, virtual elimination of persistent and bioaccumulative toxic substances, and the “polluter pays” principle.
2. Add to the purposes of the Bill the following:
 - the reduction or elimination of toxic releases (and not just their use and creation)
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3. Include aggressive targets for reductions in the use, creation and release of toxics, including:
 - a 50 per cent reduction in toxic releases within five years of the Act coming into force;
 - a 20 per cent reduction in toxic use within five years; and
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4. Commit to the goal of comprehensive coverage of toxics, and not just to coverage of a limited number of toxics or to a limited number of industries, or to the very large users and creators of toxics. All emitters and users who reach threshold levels must report. Reporting thresholds must be significantly lower than those of the National Pollutant Release Inventory, and they must be lowered over time.
5. Include mandatory substitution of safer alternatives for toxic substances in production processes.
6. Fund programs and institutions required to implement the toxics reduction strategy from the users and emitters of toxics. The funding formula should be based on use and emission, with the weighting towards emissions.
7. Establish an independent academically-based institute to build capacity to meet the requirements of the toxics reduction, safe substitution and green chemistry. This would include support to businesses, employees and communities.

8. Ensure public right to know about toxics in their environment, workplaces and products by:
 - o collecting all necessary toxics data and making it available in a readily searchable format;
 - o making available not only data collected under this Act, but also under all other environmental legislation; and
 - o identifying toxic content in products through labeling or by other understandable means.

9. Confirm the immediate commitment to regulating toxics, including labeling of toxics in products, by amending Subsection 49 (1) of the Bill as per section 64 of the Bill.

10. In the event of conflicts between the Act and other municipal bylaws or other provincial environmental legislation, allow to prevail the provision which is the most protective of health or the environment.

11. Include in the contents of the plan to reduce toxic substances (Sections 4 and 5) a statement of intent to reduce the discharge of toxics to the air, land or water.

¹ Registered Nurses' Association of Ontario. (2009). *Nurses commend government for law aimed at reducing dangerous toxics*. April 7. Toronto: Author. Retrieved April 13, 2009 from <http://www.rnao.org/Page.asp?PageID=122&ContentID=2856&SiteNodeID=451>.

² Take Charge on Toxics Campaign. (2009). *Health, environment and labour organizations support legislation to reduce toxic substances where Ontarians live, work and play and ensure industries in Ontario stay competitive internationally*. April 7, 2009. Toronto: author. Retrieved April 13, 2009 from http://www.rnao.org/Storage/54/4836_TCOTrrelease.pdf.

³ Registered Nurses' Association of Ontario (2009). *Ontario nurses say pesticide ban creates healthier environment for children*. March 4, 2009. Toronto: author. Retrieved April 13, 2009 from http://www.rnao.org/Page.asp?PageID=122&ContentID=2814&SiteNodeID=451&BL_ExpandID=.

⁴ Canadian Association of Physicians for the Environment. (2006). *A New and Improved CEPA*. Toronto: Author, 3.

⁵ Citing the Commission for Environmental Cooperation Secretariat. (2006). *Activity Report*. 2. From: Ministry of the Environment. (2008). *Creating Ontario's Toxics Reduction Strategy*, 30. Toronto: Author, August. Retrieved May 3, 2009 from http://www.ene.gov.on.ca/envision/env_reg/er/documents/2008/010-4374.pdf.

⁶ In 2005, 2006 and 2007, Environmental Defence reported tests showing that Canadians, including children, had present in their bodies many chemicals that are known or suspected health hazards. These included: chemicals that cause reproductive disorders; hormone disruptors; neurotoxins; and those associated with respiratory illnesses. The tests found that the test subjects were heavily polluted: they had in their blood on average about half of all the many chemicals which were tested. See this and the following three endnotes. Environmental Defence. (November 2005). *Toxic Nation: A Report on Pollution in Canadians*. Toronto: Author.

⁷ Environmental Defence. (June 2006). *Polluted Children, Toxic Nation: A Report on Pollution in Canadian Families*. Toronto: Author.

⁸ Environmental Defence. (January 2007). *Toxic Nation: On Parliament Hill: A Report on Pollution in Four Canadian Politicians*. Toronto: Author.

⁹ Pollution Watch. (2006). *Reforming the Canadian Environmental Protection Act: Submission to the Parliamentary Review of CEPA, 1999*. Toronto: Author.

¹⁰ Environmental Defence. (June 2006) Op. cit, 7-9.

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- ¹¹ Cooper, K. et al. (2000). *Environmental Standard Setting and Children's Health*. Toronto: Canadian Environmental Law Association and Ontario College of Family Physicians, 30-36.
- ¹² Government of Canada. (2006). *Children's Health and the Environment in North America: A First Report on Available Indicators and Measures – Country Report: Canada*. Ottawa: Author, 20. Retrieved May 3, 2009 from http://www.ccc.org/files/PDF/POLLUTANTS/CountryReport-Canada-CHE_en.pdf.
- ¹³ Wigle, D. T. (2003). *Child Health and the Environment*. Oxford: Oxford University Press, 75.
- ¹⁴ Canadian Partnership for Children's Health and the Environment (CPCHE). (August 2005). *Child Health and the Environment: A Primer*. Toronto: Author, 21.
- ¹⁵ Government of Canada. (2006). Op. Cit., iv.
- ¹⁶ Muir, T. and M. Zegarac (2001). "Societal Costs of Exposure to Toxic Substances: Economic and Health Costs of Four Case Studies That Are Candidates for Environmental Causation" *Environmental Health Perspectives Supplements* Volume 109, Number S6, December. Retrieved March 18, 2009 from <http://www.ehponline.org/members/2001/suppl-6/885-903muir/muir-full.html>.
- ¹⁷ Based on toxics releases being high in Ontario and on Ontario having about 39 per cent of Canada's population.
- ¹⁸ Ontario Medical Association. (June 2008). *Ontario's Doctors: Thousands of Premature Deaths due to Smog*. Toronto: Author. Retrieved April 16, 2009 from <http://www.oma.org/Media/news/pr080606a.asp>.
- ¹⁹ Particles (PM_{2.5} and PM₁₀), ozone (O₃), sulphur dioxide (SO₂), nitrogen dioxide (NO₂) and carbon monoxide (CO). Ontario Medical Association. (June 2005). *The Illness Costs of Air Pollution*. Toronto: Author, 2. Retrieved May 3, 2009 from https://www.oma.org/Health/smog/report/ICAP2005_Report.pdf.
- ²⁰ Toxics Use Reduction Institute. (2008). *Five Chemicals Alternatives Assessment Study – Executive Summary*. Available at: http://www.turi.org/library/turi_publications/five_chemicals_study/final_report/chapter_8_statewide_economic_impact.Chapter_8
- ²¹ For the federal government view on CMP, see Government of Canada. (2007). *Chemical Management Plan*. Ottawa: author. Retrieved May 13, 2009 from http://www.chemicalsubstanceschimiques.gc.ca/plan/index_e.html.
- ²² City of Toronto. (2008). *Toronto Municipal Code: Chapter 43: Environmental Reporting and Disclosure*. Toronto, December 3. Retrieved May 3, 2009 from http://www.toronto.ca/legdocs/municode/1184_423.pdf.
- ²³ Canadian Cancer Society. (2008). *Canadian Cancer Society poll results show government action to reduce toxic chemicals a priority for Ontarians*. December 4. Toronto: author. Retrieved May 12, 2009 from http://www.cancer.ca/ontario/about%20us/media%20centre/od-media%20releases/canadian%20cancer%20society%20poll%20results.aspx?sc_lang=en#.
- ²⁴ Canadian Nurses' Association. (2008). *Resolution: Environmental Determinants of Health*. Ottawa: Author. Resolution submitted by RAO. Retrieved May 3, 2009 from http://www.cna-aiic.ca/CNA/documents/pdf/publications/Resolution4_Environmental_Determinant_of_Health_2008_e.pdf.
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³¹ There are different formulations of the precautionary principle. For example, "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action." - [Wingspread Statement](#) on the Precautionary Principle, Jan. 1998, retrieved April 16, 2009 from <http://www.sehn.org/wing.html>.

³² The most commonly used definition comes from the Brundtland Commission: "*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.*" World Commission on Environment and Development (WCED). (1987). *Our common future*. Oxford: Oxford University Press, 43.

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³⁴ Ministry of the Environment. (2008). Op. cit., 17.

³⁵ Ministry of the Environment. (2008). Op. cit. 18, 19 suggests reporting on a further 20 non-NPRI chemicals of concern, but we have subsequently heard that these Schedule 3 chemicals are not slated for inclusion in Phase 1 of the implementation of the proposed Act.

³⁶ Environment Canada. (2009). *National Pollutant Release Inventory (NPRI) Substance Lists*. Retrieved May 3, 2009 from <http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=E2BFC2DB-1>.

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³⁸ Castrilli, J. (2008b). *Submissions to the Ontario Ministry of the Environment on Creating Ontario's Toxics Reduction Strategy Discussion Paper*, Toronto: Canadian Environmental Law Association, 15-17.

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⁴⁰ Mittelstadt, M. (2007). "Right-to-know law may apply to the little guys." *Globe & Mail*. Toronto, July 9, pA7. Retrieved May 3, 2009 from <http://www.secrecystoxic.ca/pdf/Globe%20and%20Mail%20article%20July%2009.pdf>.

⁴¹ City of Toronto. (2008). *Toronto Municipal Code: Chapter 43: Environmental Reporting and Disclosure*. Toronto, December 3. Retrieved May 3, 2009 from http://www.toronto.ca/legdocs/municode/1184_423.pdf.

⁴² Ministry of the Environment. (2008). Op. cit., 21-22.

⁴³ Castrilli, J. (2008b). Op. cit., 20-21.

⁴⁴ Castrilli, J. (2008a). Op. cit., 78-79. (Section 17).

⁴⁵ Castrilli J. (2008a). Op. Cit., 79-81 (Sections 18 and 19).

⁴⁶ Castrilli, J. (2008a). Op. cit., 83-84 (Section 22).

⁴⁷ Castrilli, J. (2008a). Op. cit., 85-86 (Section 23).

⁴⁸ Castrilli, J. (2008a). Op. cit., 86-87 (Section 24).

⁴⁹ See http://www.toronto.ca/health/hphe/enviro_info.htm, retrieved May 4, 2009.

⁵⁰ Castrilli, J. (2008a). Op. Cit., 91 (Section 58).

⁵¹ There are different formulations of the precautionary principle. For example, "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action." - [Wingspread Statement](#) on the Precautionary Principle, Jan. 1998, retrieved April 16, 2009 from <http://www.sehn.org/wing.html>.