OUR TOXIC-FREE FUTURE: AN ACTION PLAN AND MODEL TOXICS USE REDUCTION LAW FOR ONTARIO

CANADIAN ENVIRONMENTAL LAW ASSOCIATION

AUGUST 2008

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1. Toxic Chemicals Have Trespassed into our Bodies

At least 23,000 different chemicals are used in Canada today -- to make automobiles, to supply hospitals, to furnish our homes and entertain us. Yet, we know almost nothing about many of these chemicals. Very little data exist on their effects on human health or their fate in the environment.

We are, however, beginning to realize some of the unintended consequences of their use -- their presence in our bodies, for example. When human tissue samples from several Ontario families were tested for industrial chemicals, 46 of them – including various heavy metals, pesticides and perfluorinated chemicals – showed up.[1] The Premier himself and two opposition leaders each carry more than 40 different chemicals in their bodies.[2]

Although we do not know the implications of these chemicals showing up in our bodies, toxic chemicals have been implicated in the explosion of chronic diseases appearing in North America.

This "toxic trespass" is a compelling reason why governments must not only investigate the properties of these chemicals fully, but, even as that work goes forward, they must put in place measures that reduce our exposures and the threat to our health.

In Ontario, we have an unprecedented opportunity to curb the impact of toxic chemicals. Premier Dalton McGuinty, in a statement on November 20, 2007, promised the "introduction of new toxic reduction legislation to reduce pollution, inform and protect Ontarians from toxic chemicals in the air, water, land and consumer products".[3] In addition, prior to the provincial election in October 2007, all three major parties made a commitment to toxics use reduction.

Toxics use reduction is a practical way to move Ontario's economy onto a greener and more sustainable footing. Legislation would promote changes in industrial processes and a reformulation of products that would make Ontario more competitive internationally. And, it would promote the Premier's goal of making Ontario "a leader in environmental protection and driving the new knowledge-based economy that is based on creative, forward-thinking ideas, leading-edge research and new technologies."[4]

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[1] Environmental Defence, "Polluted Children, Toxic Nation: A Report on Pollution in Canadian Families", June 2006. Accessible at www.toxicnation.ca/toxicnation-studies

[2] Environmental Defence, "Toxic Nation at Queens Park: A Report on Pollution in Three Ontario Politicians", September 2007. Accessible at www.toxicnation.ca/toxicnation-studies

[3] Media Release, Office of the Premier, "McGuinty Government Reducing Environmental Toxins", November 20, 2007.

[4] Ministry of Research and Innovation, "McGuinty Government Invests in Green Industry", August 14, 2007. Accessible at www.mri.gov.on.ca/english/news/BioIC081407.asp

The Canadian Labour Congress (CLC) has also called on the Ontario government to turn Ontario's disappearing "blue collar" jobs into "green collar" manufacturing jobs.[5] The CLC believes that provincial support for companies that produce green products or save energy would strengthen manufacturing and keep workers and their families from slipping into poverty.

This report has been prepared by the Canadian Environmental Law Association, in cooperation with our Steering Committee. In this report, we:

- examine the experience of jurisdictions that have already legislated toxics use reduction;
- look at other initiatives that have the same goal of reducing toxics that are currently being put into place; and,
- propose the elements necessary for an effective toxics reduction program in Ontario.

The objective of this report is to provide guidance to legislators and the informed public on strategies for toxics use reduction that could be adopted in Ontario, and to establish the basis for CELA's model toxics use reduction law.

2. Vision

Toxics use reduction is essentially a pollution prevention strategy. It is targeted at toxic chemicals with the goal of reducing or eliminating them to the greatest extent possible. It brings all the benefits of decreasing pollutants going into the environment and reducing the risk to public health, while at the same time giving companies a broad range of choices in how they make these reductions.

It is also a way to stimulate innovation and help Ontario move to a greener economy. Consumers in Canada and abroad are increasingly demanding less toxic products. Companies that invest in substituting non-toxic chemicals in products and in upgrading their processes to reduce the use of toxic chemicals will be ahead of regulatory changes. Their actions will make Ontario the Canadian leader in the emerging field of green chemistry.

What does a toxics use reduction strategy entail? Toxics use reduction laws require companies using designated toxic chemicals to report on their use of these chemicals, and to develop pollution prevention plans that identify how they can reduce their use of toxic chemicals and the generation of wastes. A toxics use reduction strategy can also be used to target, and reduce or eliminate cancer-causing chemicals.

These reductions can be made in a variety of ways -- through changes in production processes, through substituting less hazardous raw materials or products for more toxic

[5] Monsebraaten, Laurie, "'Green Fix urged for Ontario's job blues", The Toronto Star, May 12, 2008.

ones, or simply through improving operations and housekeeping practices. Companies can choose which methods best fit their situation.

Based on the experience of other jurisdictions, significant benefits can be realized from the implementation of effective toxics use reduction legislation.

Benefit One: Toxics use reduction results in less pollution leading to a cleaner environment and safer products. All jurisdictions that have put in place toxics use reduction legislation have seen a significant decrease in toxic wastes. In addition, there have been reductions in the use of toxics by companies, in their emissions to air, water and landfill, and in the presence of toxics in the products themselves.

Benefit Two: It reduces the risk to public health, and contributes to safer and cleaner workplaces. Reduced air and water emissions benefit communities next to facilities. Consumers benefit from products with less toxic content. Importantly, companies who successfully reduced their toxics use in Massachusetts, where legislation has been in place for almost 20 years, reported that improved worker health and safety was one of the major benefits.[6] Workers in Ontario have considerable exposure to carcinogens in the workplace, as shown in Appendix I, and these exposures could be significantly reduced by a toxics use reduction program.

Benefit Three: Companies save money from the implementation of pollution prevention plans. Companies found that they saved money on the purchase of chemicals used in their production processes and on waste disposal.[7] This was the second major benefit reported by companies surveyed in Massachusetts. Although not every company saved money, evaluations of companies in Massachusetts found a combined savings of $14 million.

Benefit Four: It promotes the introduction of cleaner, more innovative technologies and the development of greener products. As companies work to meet the requirements of toxics use reduction laws, many modernize their production practices. Some companies also re-formulate products with non-toxic ingredients, creating new greener products as a result. Industries that make these changes are more efficient and have a competitive advantage over industries in other jurisdictions. They also provide skills and job training for workers in newly-created "green" jobs. Ontario industries could profit from such production improvements, and improve their competitiveness both within Canada and internationally. A toxics use reduction program could also help many manufacturing companies comply with more stringent European rules.

Benefit Five: It results in lower compliance costs for companies and lower enforcement costs for government agencies. As a result of toxic use reduction activities, many companies are able to reduce their emissions or lower them below reporting threshold levels, thereby reducing compliance costs. Similarly, reductions in toxic emissions mean

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[6] The Massachusetts Toxics Use Reduction Institute, "Survey Evaluation of the Massachusetts Toxics Use Reduction Program", Methods and Policy Report No. 14, University of Massachusetts Lowell, 1997.
[7] Ibid. p. iii.

less work for government agencies in monitoring, inspecting and issuing permits for companies. There are also fewer violations and legal costs for both companies and government.

Benefit Six: It reduces the need for further management of hazardous wastes through treatment, disposal and off-site recycling. Less toxic wastes, as a result of improvements in pollution prevention, bring about a similar reduction in the need for transporting wastes to recycling facilities, for treatment and for disposal in landfills. It also means fewer chemical spills or accidents are likely to happen on our roads and railways. Ontario currently tries to track 400,000 tonnes of hazardous waste generated annually by companies in the province. A 2005 report, "Business Case to Analyse ASD Options for Hazardous Waste Information Management", found that a provincial toxics use reduction law would benefit the province by reducing its risk; by reducing the amount of data tracked by Ministry of Environment enforcement staff; and, by reducing the Ministry's costs in tracking hazardous wastes.[8]

3. Ontario Needs a Toxics Use Reduction Act

There are companies in Ontario that have made significant progress in reducing pollution without the stick of legislation. For example, North American Decal, a medium-sized company in Markham that supplies printed decal products, converted from using solvent-based inks in most of its printing process to ultraviolet inks. This resulted in significant reductions of volatile organic compounds released to the indoor air and during transportation of its ink supply.[9]

However, these kinds of improvements are not routinely done, and, overall, Ontario needs to make much more progress in preventing pollution. The *Environmental Protection Act* and the *Ontario Water Resources Act*, our principle environmental laws, have put the brakes on some polluting activities, but have not persuaded companies to actively pursue pollution prevention.

Despite decades of effort to control pollution in the province, our toxic emissions are strikingly high -- so high, in fact, that Ontario's reported emissions of toxic chemicals are among the largest of any jurisdiction in North America.

Ontario is second only to Texas when total releases and transfers of pollutants are calculated, according to the most recently published 2004 information from the Commission for Environmental Cooperation (CEC), which monitors Canada, the United

[8] Deloitte, "Business Case to Analyse ASD Options for Hazardous Waste Information Management", November 2005.
[9] Environment Canada, "Pollution Prevention – Canadian Success Stories, North American Decal". Accessible at www.ec.gc.ca/pp/en

States and Mexico.[10] These are the toxic substances emitted to air and water, disposed of on land and transferred off-site.

It could be assumed perhaps that Ontario's high emissions levels are due to a higher level of economic activity compared with other jurisdictions. However, the CEC data show that higher levels of economic activity do not necessarily equate with higher levels of pollution. When the different economic activity of states and provinces are taken into account, Ontario's pollutant levels are still relatively higher.

For example, California has the highest Gross Domestic Product (GDP) of any jurisdiction in North America. At #1, its GDP is more than three times the size of Ontario's -- $1.5 trillion compared to Ontario's $427 billion in 2004. Yet, California's total pollution releases and transfers are less than one-quarter of Ontario's -- approximately 58 million kilograms in California compared to 277 million kilograms in Ontario.[11]

Even New York State, with an economy second only to California in the North American hierarchy, has a GDP of $900 billion -- more than twice the size of Ontario's at $427 billion. New York, however, only produced and transferred 55 million kilograms of pollutants, again much less than Ontario's 277 million.

Massachusetts, known for its pollution prevention work, has a GDP of $312 billion -- not that much smaller than Ontario's $427 billion. However, it released and transferred 21 million kilograms of toxic chemicals in 2004 – less than one-tenth of Ontario's pollution.

Nor can Ontario's high emission levels be explained by a relatively larger number of facilities. For example, Ontario and Ohio have similar numbers of facilities that reported to the CEC in 2004 -- 1,295 facilities in Ontario compared to 1,465 in Ohio. Yet, Ohio's total releases and transfers are 193 million kilograms while Ontario's are 277 million kilograms. Total releases and transfers in Ontario are approximately 30 per cent higher than Ohio's, even though Ohio's air emissions are higher than Ontario's and have given it a reputation as a "dirty" state.

Moreover, Ontario's record on chemicals of concern – such as carcinogens and reproductive toxins – is similarly disturbing. These statistics also put Ontario very high up in the rankings. For releases of cancer-causing chemicals to the air, Ontario is the fourth highest emitting jurisdiction in North America behind only Texas, Indiana and Tennessee.

Ontario facilities released more than 3 million kilograms of carcinogens into the province's air in 2004. These include large volumes of well-known carcinogens such as trichloroethylene, ethylbenzene, styrene and formaldehyde. In Massachusetts, only

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[10] Commission for Environmental Cooperation, "Taking Stock: 2004 North American Pollutant Releases and Transfers", Sept. 2007. Accessible at www.cec.org

[11] Ibid., Table 4-4, page 50.

150,000 kilograms of carcinogens went into the air.[12] A 2000 analysis of 41 carcinogens used in Massachusetts found an 18% reduction in use and 65% reduction in releases, some of which can be attributed to the toxics use reduction program.[13]

For reproductive toxins released to air, Ontario's record is of even greater concern. Ontario ranks second only to Tennessee releasing more than 4 million kilograms of reproductive toxins into the air in 2004.

By different yardsticks, then, Ontario has a poor track record of polluting. And its poor pollution record is not easily explained by its Gross Domestic Product or the number of facilities reporting.

It reinforces the need for a toxics use reduction strategy. This province, with one of the biggest economies in North America, should be in the same league with the cleanest jurisdictions, and toxics use reduction legislation could help put it there.

4. Existing Toxics Use Reduction Legislation

Toxics use reduction legislation is a unique approach to reducing toxics. It is not like traditional environmental "control" strategies that rely on approvals, inspections, and fines. Rather, it motivates companies to innovate and implement new environmental practices through pollution prevention planning and technical support.[14]

It encourages companies to see pollution in a new way -- as an expensive commodity that needs reducing to control costs, increase efficiency, and improve workplace safety. Some companies come to see pollution as just product that is in the wrong place. Properly done, toxics use reduction programs provide companies with the motivation, ideas and support to reduce pollution.

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[12] Releases and Transfers 2004: Ontario, Massachusetts and New Jersey, provided by the Commission for Environmental Cooperation, January 2008.

[13] Geiser, Ken, "Massachusetts Toxics use Reduction Program Update", slides presented to the Environmental Carcinogen Use Reduction Symposium, Toronto, February 6, 2007.

[14] O'Rourke, Dara & Eungkyoon Lee (2004) Mandatory Planning for Environmental Innovation: Evaluating Regulatory Mechanisms for Toxics Use Reduction, Journal of Environmental Planning and Management 47 (2): 181-200.

Toxics use reduction laws "bypass debates over acceptable levels of toxicity and risks of specific exposure levels and releases. They rest on a simple argument: the use of every toxic chemical should be reduced or eliminated."[15]

Ken Geiser, Lowell Center for Sustainable Production,
University of Massachusetts Lowell

Massachusetts has the distinction of being the first jurisdiction to enact a toxics use reduction law, and to develop the institutions and programs to support its effective implementation.

The Massachusetts legislature unanimously passed the Toxics Use Reduction Act in 1989, and now has almost 20 years experience in this field. [16] Its law has been a pollution prevention success story. New Jersey followed suit shortly afterwards passing its Pollution Prevention Act in 1991. A number of other states have enacted legislation promoting pollution prevention as well, but none have been as effective or as well documented as those of Massachusetts and New Jersey. This section provides an overview of the programs in these two states while Section 6 discusses specific features in more detail.

4.1 Massachusetts

The intention of the *Toxics Use Reduction Act* (TURA) in Massachusetts was to establish toxics use reduction as the preferred means of achieving compliance with environmental laws, as well as to promote the economic viability of companies in the state. Toxics use reduction is defined as:

> ...in-plant changes in production processes or raw materials that reduce, avoid, or eliminate the use of toxic or hazardous substances or generation of hazardous byproducts per unit of product, so as to reduce risk to the health of workers, consumers, or the environment, without shifting risks between workers, consumers, or parts of the environment.[17]

TURA established a goal of reducing toxic waste generated in the state by 50% by 1997, and achieved this level of reduction in 1998. Beyond the achievement of this goal, over the period from 1990 to 2004 Massachusetts also reduced:

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[15] Ken Geiser, "The Greening of Industry: Making the Transition to a Sustainable Economy", Technology Review, August/September 1991, p.64.
[16] Toxics Use Reduction Institute, "An Overview of TURA". Accessible at http://turadata.turi.org
[17] Definitions, Toxics Use Reduction Act.

- 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%.[18]

TURA has involved more than 1,000 companies in Massachusetts, focussing on the reduction of some 190 chemicals.[19] Firms processing or using any of the reportable toxic chemicals must do three things:

- Report annually to the state on the total amount of chemicals used by the company, the total waste generated, the total toxic chemicals generated in or as products and an economic activity index;
- Prepare a pollution prevention plan to reduce or eliminate these chemicals and update these plans every two years; and,
- Pay an annual fee.

A critical component of Massachusetts' law is the requirement that firms prepare a pollution prevention plan. Pollution prevention plans are based on materials use accounting, a system of evaluating chemical inputs and outputs, and balancing them in the same way a bank account is balanced.

A company is required to design a pollution prevention plan, but not required to implement it. However, experience has shown that most companies implement some or all of their plans. This flexibility allows companies to choose which projects best suit their needs.

Summaries, but not the full plans, are submitted to the state every two years. However, all plans must be certified by a licensed Toxics Use Reduction planner. This certification process ensures that pollution prevention plans meet a high standard established by the state.

Another important element of Massachusetts' toxics use reduction framework is the establishment of institutions that provide technical support and expertise in pollution prevention. As part of TURA, the state established the Toxics Use Reduction Institute, set up at the University of Massachusetts at Lowell. This Institute provides research, training, technical support and public awareness. As well, it trains the Toxics Use Reduction Planners.

Another institute, the Office of Technology Assistance for Toxics Use Reduction (OTA), was also established as part of the Toxics Use Reduction Act. OTA is a non-regulatory office within the Massachusetts' state government's Executive Office of Energy and

[18] Office of Technical Assistance and Technology, "Toxics Use Reduction". Accessible at http://www.mass.gov/envir/ota/resources/tur.htm

[19] Geiser, Ken, "Massachusetts Toxics Use Reduction Program Update", presented at Environmental Carcinogen Use Reduction Symposium, Toronto, February 6, 2007.

Environmental Affairs.[20] It offers free technical support and guidance to industries to help them meet their legislative obligations.

All these activities are paid for by an annual fee levied on companies that are required to report. The fee is a sliding scale based on the number of employees and the number of reportable chemicals.

In 1996, a report, Evaluating Progress, assessed the effectiveness of Massachusetts' toxics use reduction program.[21] It found that, as a result of the program, the number of Massachusetts' firms involved in toxics use reduction practices had increased from 30% in 1990 to 75% in 1996. The most frequently reported benefits of the program were 1) cost savings, and 2) worker health and safety improvements.

A study of the costs and benefits of the program found that the benefits exceeded the costs during the period examined in the report – 1990 to 1997.[22] It was estimated that the costs of implementing the program were $77 million over the 8 year period, and the benefits were $91 million.

The benefits came from more than $88 million that companies saved in operating costs and just over $2 million in federal grants to TURA programs.[23] It did not include the many human health and environmental benefits, such as reduced worker and public health risks from exposure to toxic chemicals. Overall, state industries saved $14 million.

The report also found that toxics use reduction was becoming the preferred means of compliance with environmental laws, and that 2/3 of the companies at that time implemented recommendations identified in their pollution prevention plans. Some of the firms surveyed stated that toxics use reduction improved their environmental image, with some finding a marketing advantage in it. Others reported reduced regulatory compliance requirements.

Another goal of the Act, which was to strengthen the enforcement of environmental laws, was also achieved under toxics use reduction. The Department of Environmental Protection undertook multi-media inspections that checked companies' compliance with air, wastewater, hazardous waste and toxics use reduction regulations.

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[20] The Department of Environmental Protection which is a regulatory agency within the Massachusetts state government is also part of the Executive Office of Energy and Environmental Affairs.

[21] The Massachusetts Toxics use Reduction Program, "Evaluating Progress: A Report on the Findings of the Massachusetts Toxics Use Reduction Program Evaluation", March 1997.

[22] Executive Summary, The Massachusetts Toxics use Reduction Program, "Evaluating Progress: A Report on the Findings of the Massachusetts Toxics Use Reduction Program Evaluation", March 1997, p v.

[23] Ibid.

4.2 New Jersey

Similar to Massachusetts' TURA, New Jersey's *Pollution Prevention Act* requires all companies that report under the rules of the Toxics Release Inventory (TRI) to develop pollution prevention plans. Like Massachusetts, the Act does not require companies to implement them.[24]

The initial plans and summaries must be revised five years later, and every subsequent fifth year. Plan summaries are submitted to the Office of Pollution Prevention of the New Jersey Department of Environmental Protection (DEP). They must also be accompanied by progress reports documenting how well the facility has done in meeting its pollution prevention goals.[25]

In New Jersey, it is mandatory that facilities use a materials accounting system to understand and evaluate their production processes. This means that companies must quantify the volume of hazardous substances that enter a facility, track their use through the industrial process, and document the quantities that leave the processes as part of the product or as a "non-product" output. New Jersey uses the term "non-product" output to describe the quantity of a chemical that was generated before storage, out-of-process recycling, treatment, control or disposal, and that was not intended for use in a product.[26] It is calculated by adding on-site releases, managed on-site and off-site transfers.

An evaluation of the program in May 1996 found that planning was successful in leading companies to identify pollution prevention opportunities.[27] The authors concluded that "a majority of facilities found planning worthwhile and found benefits beyond reduction goals and fulfilling regulatory requirements".[28] These included inventories of processes not previously examined, a greater understanding of processes and a background framework to propose capital investment projects.

An important conclusion of this evaluation was that the average planning costs were lower than the average savings. Individual facilities estimated that they would expect to save an average of $116,000 per year.

DEP reports show that industries in New Jersey made significant reductions in toxics use and waste when quantities of toxic chemicals were adjusted for production. In spite of a

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[24] New Jersey Technical Assistance Program, The New Jersey Pollution Prevention Act. Accessible at www.ycees.njit.edu/njtap/njppa.htm

[25] Ibid. Also New Jersey Administrative Code, title 7, Chapter 1K, Pollution Prevention Program Rules.

[26] New Jersey Department of Environmental Protection, Industrial Pollution Prevention in New Jersey: A Trends Analysis of Materials Accounting Data 1994 to 2004, Spring 2007.

[27] Natan, Thomas E. et al., Evaluation of the Effectiveness of Pollution Prevention Planning in NJ, A Program-Based Evaluation – May 1996. Accessible at www.state.nj.us/dep/opppc/reports/hamp1.htm

[28] Ibid. Summary.

25 per cent increase in production levels, facilities still reduced their total generation of hazardous waste by 45 per cent from 1994 to 2004.[29]

5. New and Proposed Chemical Laws

In addition to the toxics use reduction laws in place in Massachusetts and New Jersey, many other states are pioneering initiatives designed to reduce toxics. Ontario has the opportunity to capitalize on the forward-thinking ideas being proposed by other jurisdictions, and incorporate them into a made-in-Ontario toxics use reduction law.

5.1 Massachusetts' Safer Alternatives Bill

Massachusetts itself is expected to pass another piece of legislation that builds on the success of the Toxics Use Reduction Act. The legislation, *An Act for a Healthy Massachusetts: Safer Alternatives to Toxic Chemicals*, aims to promote safer alternatives to the most hazardous chemicals currently in use.[30]

As it was originally proposed, it establishes a Safer Alternatives Program that will replace toxic chemicals with safer substitutes using a step-by-step approach. Where TURA applies to facilities using large quantities of toxic chemicals, this Program will ask all companies – large and small—to make the shift to safer alternatives.

> Asking manufacturers to make safer products is nothing extraordinary especially when proven, effective alternatives to toxic chemicals exist. Massachusetts is poised to be the leader in the nation for promoting toxic substitution…If we can keep toxics out of everyday products, then we will be safeguarding the health of our environment and our children.
>
> Senator Pamela Resor, Co-Chair of the Environment Committee

The Act initially targets ten priority chemicals of concern in Massachusetts. These are lead, trichloroethylene, perchloroethylene, dioxins and furans, hexavalent chromium, organophosphate pesticides, 2,4-D, penta-BDE (polybrominated diphenyl ethers) and DEHP (diethylhexylphthalate).

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[29] New Jersey Dept. of Environmental Protection, "Industrial Pollution Prevention in New Jersey: A Trends analysis of Materials Accounting Data 1994-2004", Spring 2007, p. 20. See also Environment Reporter, "State's Use, Release of Toxic Chemicals Fell Despite Production Gains, Report Shows", March 30, 2007.

[30] A version of the Bill was passed by the Massachusetts Senate in January 2008, and then proceeded to committee. The Bill described here is the one originally proposed to the Senate which has since been amended by the Senate and may be changed again. The status of the Bill may be checked at www.openmass.org/bills/show?bill_num=2481&chamber=Senate

Within 2 years, the Toxics Use Reduction Institute will evaluate the availability of alternatives for these priority toxic substances in a Safer Alternatives Assessment Report. All of them, with the exception of the pesticides, have been designated in Canada as "toxic" under the *Canadian Environmental Protection Act* (CEPA), and are on Canada's List of Toxic Substances.

Within 180 days of the publication of the Safer Alternatives Assessment Report, the Bill requires that the Executive Office of Environmental Affairs develop and implement a chemical action plan for each priority chemical. Chemical Action Plans will have timetables for substitutions and a plan for state-wide implementation. Firms must then prepare and implement facility-specific substitution plans for each priority substance. If safer alternatives are not technically or economically feasible, companies may apply for waivers.

In addition to these ten chemicals, more chemicals may be targeted for substitution through a process set up by the Act. A Science Advisory Board would be formed to develop a Preliminary Chemicals Categorization List by categorizing chemicals commonly used in Massachusetts into 4 tiers. These will be: chemicals of high concern, chemicals of concern, chemicals of unknown concern and chemicals of no concern. The Board will draw on existing lists, such as the chemicals of concern identified under Canada's categorization work mandated by CEPA.[31]

Under this Act, the state will also provide assistance for businesses and employees. A new Business Transitions Assistance Program will help businesses switch to safer alternatives. It will include technology evaluation, direct grants and loans to businesses for costs required to implement safer alternatives, technical support and research, and development of safer programs.

For workers that might experience job losses as a result of substitution plans, the Bill requires the Department of Labor and Workforce Development to work with other state agencies to plan for any job losses, and ensure a just and fair transition.

5.2 Maine's Promotion of Safer Chemicals in Consumer Products

Maine is also moving ahead on strategies to reduce toxic chemicals, particularly in consumer products. In the last few years, Maine has tried to eliminate or phase out mercury by banning the sale of mercury switches for cars, as well as mercury in thermometers or other measuring devices.[32]

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[31] Government of Canada, Chemicals Management Plan. Accessible at http://www.chemicalsubstanceschimiques.gc.ca/plan/index_e.html

[32] Department of Environmental Protection, State of Maine, "Mercury: A Significant Environmental Problem". Accessible at www.maine.gov/dep/mercury/

In 2006, the Governor of Maine, John Baldacci, set up a task force to address the problem, and in December 2007, the Task Force to Promote Safer Chemicals delivered its report. The Task Force recommended that the state:

- adopt and publicize a list of chemicals of high and moderate concern based on inherent properties;
- establish the authority to require consumer product manufacturers to disclose which chemicals of high and moderate concern are in their products;
- develop a publicly accessible database of information about chemicals of concern and which products contain them, as well as information on safer alternatives; and,
- establish the authority to restrict the use of chemicals of high concern in consumer products when safer alternatives are available.

As a result of this initiative, the Maine Legislature passed *An Act to Protect Children's Health and the Environment from Toxic Chemicals in Toys and Children's Products* in April 2008.[33] The Act requires the Department of Environmental Protection to create a regularly updated list of at least 100 priority chemicals that are of high concern with respect to the exposure of children and pregnant women. Manufacturers, which use these chemicals in their products, would be required to disclose them to the state. In addition, the state will establish a process for replacing these chemicals with safer alternatives.

A similar bill -- the *Children's Safe Products Act of 2008* – was passed in Washington State in April 2008.[34] In addition to requiring manufacturers of children's products to report what high priority chemicals their products contain, this Act prohibits the sale of children's products containing lead or cadmium at more than 40 parts per million or containing phthalates.

Maine is also supporting research in the development of green chemistry products, particularly bio-based plastics, at the University of Maine.

> Gone are the days that protecting our people and the environment run counter to business interests.
>
> Governor John Baldacci, Maine

[33] The text of this Act may be found at:
http://janus.state.me.us/legis/LawMakerWeb/externalsiteframe.asp?ID=280027552&LD=2048&Type=1&SessionID=7

[34] The text of this Act may be found at:
http://apps.leg.wa.gov/billinfo/summary.aspx?bill=2647&year=2007

5.3 States' Green Chemistry Initiatives

Like Maine, several states are looking at ways to promote the development of green chemistry and give their states an advantage in the growing demand for greener products and technologies. For many, institutions such as the Office of Technology Assessment or the Toxics Use Reduction Institute in Massachusetts are models. The following are some examples:

- New York State is creating a Pollution Prevention Institute at Rochester Institute of Technology. Recognizing that no institution in the state offers a comprehensive set of services to promote pollution prevention, toxics use reduction and green chemistry, New York has passed a law that establishes a pollution prevention institute.[35] The institute will design and test "green" manufacturing methods and provide technical assistance to businesses for pollution production methods that will make them more productive.

- Michigan's Governor has signed an Executive Order to establish a Green Chemistry Support Program. This program will coordinate research, development, demonstration, education and technology transfer in the State.

- California is developing a set of policies to promote green chemistry. This is in response to a 2008 report from the University of California at Berkeley to the Legislature that found the United States is falling behind Canada and Europe in the management of toxic chemicals. The state's Environmental Protection Agency has proposed more than 800 ideas that will form the basis of a green chemistry strategy.[36]

6. Essential Elements of a Toxics Use Reduction Law for Ontario

Drawing on the experience of other jurisdictions and the innovative ideas being proposed or implemented for toxics use reduction, we have identified the most necessary and desirable elements of a toxics use reduction and safer alternatives law for Ontario. These elements are also the foundation of our model law, the *Act for a Healthy Ontario: Toxics Use Reduction and Safer Alternatives Act.*

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[35] Media Release, "Governor Spitzer Announces Rochester Institute of Technology to Host Pollution Prevention Institute", Governor's Office, New York State, February 29, 2008.

[36] California Environmental Protection Agency, "California Green Chemistry Initiative, Phase 1: A compilation of Options", January 2008. Accessible at www.dtsc.ca.gov/PollutionPrevention/GreenChemistryInitiative/index.cfm

6.1 Goals

It is important to set clear and ambitious goals for toxics use reduction. Clear goals can galvanize efforts and spur innovation. Clear goals also provide benchmarks for evaluating the success of toxics use reduction legislation and programs.

Massachusetts' first target was a 50% reduction in toxic waste in the state by 1997 -- 8 years after the legislation was passed.[37] Similarly, New Jersey's goal was to reduce hazardous non-product output generation by 50% *and* achieve a significant reduction in toxics use over a 5-year period. In addition to waste reduction, Massachusetts also aspired to enhance the capacity of state businesses to grow and prosper.

Both states have met these goals, and gone beyond them to achieve other significant reductions in toxic chemical use and release. In New Jersey even though production increased, gains in reducing toxic chemicals per unit of output resulted in an overall reduction in the use of hazardous chemicals in the state.

Companies are also encouraged to set goals or targets for reductions within their own facilities and write them into their pollution prevention plans.

Recommendation #1: Ontario should adopt an overall goal for the province of a 50% reduction in the *release* of toxic substances in the province within 5 years of the passage of the legislation.

In addition, we recommend a 20% reduction in the *use* of toxic substances in the province within 5 years after the first mandated reporting period, and a 40% reduction in use within 10 years.

6.2 Definition of Toxics Use Reduction

The definition of toxics use reduction will determine the way in which pollution prevention activities are performed in the province. It is important, therefore, that a new provincial law defines toxics use reduction in a way that approves pollution prevention activities which will contribute to reducing, rather than increasing, harm to the environment and people's exposures to toxic chemicals.

[37] Massachusetts Toxics Use Reduction Act, Chapter 21I, Section 13.

The Canadian government defines pollution prevention as "the use of processes, practices, materials, products, substances or energy that avoid or minimize the creation of pollutants and waste, and reduce overall risk to human health or the environment".[38]

Pollution prevention methods include:

- substituting a less or non-hazardous substance for a hazardous substance used in a production process;
- changing the design or formulation of a product;
- changing the equipment or the process of making a product;
- improving the operation and maintenance of existing production processes, including spill and leak prevention; and,
- on-site reuse, recycling or recovery of hazardous substances within a production process.[39]

Pollution prevention does not include incineration, energy recovery, release into the environment, off site recycling or end-of-pipe treatments.[40]

Recommendation #2: New Ontario legislation should define "toxics use reduction" to mean --

In-plant changes in the production process of raw materials that reduce, avoid, or eliminate the use of toxic substances or the generation of toxic substance byproducts per unit of product, so as to reduce risks to the health of the public, workers, consumers, or the environment, without shifting risks between the public, workers, consumers, or parts of the environment.

Toxics use reductions shall be achieved through input substitution, product reformulation, production process redesign or modification, production process modernization, improved operation and maintenance of production process equipment and methods, or recycling, reuse, or extended use of toxic substances by using equipment or methods that become an integral part of the production process of concern.

Toxics use reduction does not include incineration, transfer from one medium of release to other media, off-site or out-of-production process waste recycling, or methods of end-of-pipe treatment of toxic substances as waste.

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[38] Environment Canada, "Progress in Pollution Prevention 2001-2002", Accessible at www.ec.gc.ca/p2progress/2001-2002/

[39] This description of pollution prevention methods is drawn from New Jersey Dept. of Environmental Protection "Industrial Pollution Prevention Trends in New Jersey", December 1996 by Michael Aucott et al. and Environment Canada "National Pollutant Release Inventory: About the NPRI 1988". Accessible at www.dsp-psd.pwgsc.gc.ca

[40] The *Canadian Environmental Protection* Act does include provisions for pollution prevention plans. However, this provision has only been applied to approximately 6 substances, and is substance-specific. It is not a pollution prevention planning strategy aimed at the overall reduction of the use and release of toxic substances.

6.3 Lists of Reportable Chemicals

In order to determine whether progress is being made in reducing toxic chemicals at individual facilities or province-wide, companies must report annually on toxics use and releases from their facilities.

In Massachusetts and New Jersey, the requirements for reporting are closely linked to the requirements under the U.S. federal Toxics Release Inventory (TRI) to report chemical releases and transfers.[41] Any company in New Jersey or Massachusetts, which is required to report emissions of specific substances to the TRI, is also required to report annually on their use and release of these chemicals to the respective state governments.

Facilities that must report to TRI are those with 10 or more full time employees, and those within specific designated sectors that manufacture or process 25,000 pounds or more of a reportable substance, or otherwise use 10,000 pounds or more of a reportable substance. These thresholds correspond to approximately 11 tonnes, and approximately 4.5 tonnes respectively.

For certain substances, lower thresholds for reporting have been put in place. Under revised TRI requirements that came into effect in 2000, lower thresholds apply for persistent, bioaccumulative and toxic substances.[42] These new thresholds may be 100 pounds (45 kilograms) or 10 pounds (4.5 kilograms).

Lead, for example, is now being reported above a threshold of 100 pounds (45 kg), and mercury at 10 pounds per year (4.5 kg). For dioxin and dioxin-like compounds, any of the 17 compounds must be reported in grams and it can be as low as 0.1 gram.

In Canada, reporting of pollutant releases and transfers is done under the National Pollutant Release Inventory (NPRI). NPRI requires reporting by all facilities with 10 or more employees, and all facilities which manufacture, process or otherwise use 10 tonnes (10,000 kilograms) or more of a listed substance.

TRI requires reporting for about 600 substances, while companies in Canada report about 324 substances on the NPRI list. Thresholds for reporting releases and transfers of some persistent, bioaccumulative and toxic substances have also been lowered under NPRI.

Because NPRI does not capture all the toxic chemicals of concern in Ontario, it will be necessary to create an expanded list of reportable substances under a new Ontario law. For a comprehensive list of reportable substances that would be candidates for reduction,

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[41] The TRI is part of the U.S. federal Emergency Planning and Community Right to Know Act of 1986, Section 313.

[42] Environmental Protection Agency, Toxics Release Inventory Program. Accessible at www.epa.gov/tri/

substances from other lists of concern should be added to the NPRI list of reportable substances

The Ontario list should include high hazard substances identified by the federal government under its Chemicals Management Plan.[43] Health Canada and Environment Canada completed the exercise of categorizing many of the chemicals in use in Canada, fulfilling obligations imposed by the *Canadian Environmental Protection Act*. Chemicals have been designated as high hazard, medium hazard or low hazard, or, alternatively, of no concern. The government found that 4,300 chemicals required further action.[44]

The 193 substances on the high hazard list are being considered for inclusion in the list of reported chemicals under NPRI. We recommend that the government of Ontario add the chemicals identified on the high hazard list as reportable substances if they are not currently being reported under NPRI, and if they are used in manufacturing in Canada or imported in products.

In addition, the Ontario list should include carcinogens and reproductive toxins identified by the International Agency for Research on Cancer (IARC), from California's *Safe Drinking Water and Toxic Enforcement Act of 1986* (known as Proposition 65), and from the U.S. National Toxicology Program.[45]

Concerns have also been raised by various groups and individuals about carcinogens and reproductive toxins used by facilities in Ontario and public exposure to these chemicals. It has been suggested that Ontario reduce exposures of its citizens to these chemicals of particular concern to health. In July 2007, for example, The Cancer and Environment Stakeholder Group released its report on "Cancer and the Environment in Ontario: Gap Analysis on the Reduction of Environmental Carcinogens".[46] This report identified toxics use reduction as a framework that would help reduce environmental carcinogens.

Therefore, we recommend that a process be set up by the government that would identify those carcinogens and reproductive toxins that are used in Ontario from the IARC, Proposition 65 and National Toxicology Program lists that are not already covered by NPRI reporting or on the high hazard list, and add them to a list of reportable substances for Ontario.

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[43] Government of Canada, Chemicals Management Plan. Accessible at http://www.chemicalsubstanceschimiques.gc.ca/plan/index_e.html

[44] Prime Minister's Office, "Canada's new government improves protection against hazardous chemicals", December 6, 2006.

[45] Under California's Safe Cosmetics Program, a list of chemicals has been created that includes the chemicals listed under these three lists, as well as chemicals identified by the U.S. Environmental Protection Agency as known or suspected of causing cancer or reproductive harm. It identifies more than 700 chemicals. This list can be found at www.dhs.ca.gov/ohb/Cosmetics

[46] The Cancer and Environment Stakeholder Group, "Cancer and the Environment in Ontario: Gap Analysis on the Reduction of Environmental Carcinogens", July 20, 2007.

Furthermore, in order to ensure that hazardous chemicals continue to be identified and reduced in the Ontario environment, the government should institute an ongoing process that would add other hazardous chemicals to Ontario's list of reportable substances. In particular, the 2,600 substances, identified by the federal government as medium hazard chemicals under the Chemicals Management Plan, should be added to the list in a second phase. This should be done in a time frame of no longer than 5 years after the passage of the toxics use reduction bill.

Recommendation #3: Ontario should establish a list of reportable chemicals as part of its toxics use reduction law that includes:[47]

- the National Pollutant Release Inventory (NPRI) as the basic list of substances that companies must report;
- the 193 high hazard substances identified under the federal government's Chemicals Management Plan;
- carcinogens identified by the International Agency for Research on Cancer (IARC), carcinogens listed by the U.S. National Toxicology Program, and substances listed by the California *Safe Drinking Water and Toxic Enforcement Act* of 1986 (known as Proposition 65) as carcinogens and reproductive toxins, which are not already listed on the NPRI and which are used in Ontario.

A second phase of additions to the Ontario list of reportable chemicals should include medium hazard chemicals as identified by the federal government's Chemicals Management Plan. This should be done within 5 years of the passage of Ontario's legislation.

6.4 Reporting Thresholds

As we have noted, Canadian facilities, which manufacture, process or otherwise use 10 tonnes or more of a listed substance, are required to report their releases of these chemicals under NPRI. However, reporting thresholds should be established not just on the basis of quantity, but also on the basis of hazard.

Both NPRI and TRI have recognized this -- that for high hazard chemicals, these reporting thresholds are too high. As a result, lower thresholds are applied for some chemicals. Under NPRI, the thresholds for reporting arsenic, lead, and hexavalent chromium are 50 kilograms. Mercury and cadmium must be reported at levels above 5 kilograms. For dioxins and hexachlorobenzene, which are byproducts of industrial

[47] In total, this list could theoretically include approximately 1,200 chemicals. However, the duplication of some chemicals on these lists would need to be considered, and this would probably bring the number of chemicals down.

emissions, there is no threshold. Any detectable amount of these chemicals must be reported.

Under recent amendments to the Massachusetts' Toxics Use Reduction Act, the principle of lowering reporting thresholds for higher hazard chemicals has also been recognized. In the amendments, reporting thresholds for higher hazard chemicals have been set at 1,000 pounds (450 kilograms).[48] For chemicals that are persistent, bioaccumulative and toxic, even lower reporting thresholds have been set at 100 pounds (45 kilograms). Certain chemicals will be designated under the legislation for reporting at these levels.[49] These lower levels are close to the NPRI reporting thresholds for arsenic, lead and hexavalent chromium.

Therefore, for the additional substances that we recommend be listed along with the core NPRI list – the high hazard list under Canada's Chemicals Management Plan as well as the IARC, National Toxicology Program and Proposition 65 listed carcinogens and reproductive toxins, we have concluded that the 10 tonne (10,000 kilograms) reporting threshold is too high.

Because of their particularly hazardous properties, these chemicals pose a risk to both human health and the environment, and lower reporting thresholds should be applied. In Canada, a precedent for this has already been established with lead, mercury, and dioxin. We recommend, therefore, that these chemicals – those that are carcinogenic, reproductive toxins, persistent, bioaccumulative and toxic chemicals -- should be reported at a threshold of 50 kilograms.

In addition, where there are extremely toxic byproducts emitted as a result of industrial processes, like dioxin or hexachlorobenzene, the government should also consider requiring reporting of these chemicals in any detectable amount.

Recommendation #4: The threshold level, at which high hazard chemicals should be reported, should be lower than the established NPRI reporting threshold of 10 tonnes or 10,000 kilograms. Under Ontario's law, reporting thresholds should be 50 kilograms for chemicals 1) which are carcinogenic or toxic to reproduction, and, 2) which are persistent, bioaccumulative and toxic.

[48] Section 25(A), An Act Amending the Toxics Use Reduction Act.

[49] The process of lowering the thresholds for certain chemicals began with the creation of the higher/lower hazard lists by TURA's Science Advisory Board in 2003. Two chemicals have been selected for reporting at the 1,000 pound threshold, while others are in the process of being considered.

6.5 Who Would Report

Originally, when TRI was introduced in the United States, all manufacturing industries were required to report their transfers and emissions of toxic chemicals. As a result, Massachusetts' *Toxics Use Reduction Act* (TURA) at first applied primarily to manufacturing industries.

In 1998, the Toxics Release Inventory was expanded to include facilities in other sectors.[50] When the TRI expanded, Massachusetts and New Jersey also extended their legislation to include the same industrial sectors. As a result, the sector groups that are currently subject to toxics use reduction legislation in these states are manufacturing, mining, transportation including pipelines, wholesale trade in durable and non-durable goods and certain services such as automotive repairs.[51]

NPRI, however, requires all facilities meeting the criteria to report.[52] In Canada, therefore, additional sectors, such as the oil and gas sector, pits and quarries, sewage treatment plants, and incinerators must all report, although they are not required to do so in the United States.

Like Massachusetts, Ontario's toxics use reduction law should also cover the manufacturing sector. In addition, the law should cover all sectors that report to NPRI. This would include sectors not covered under the TRI such as the oil and gas sector, pits and quarries, sewage treatment plants, and incinerators.

Moreover, Ontario should consider expanding the facilities that would be governed by the legislation by reducing the criteria for inclusion to 5 employees, rather than 10. Although these facilities may seem small, their releases and uses of toxic chemicals may result in toxic exposures as significant as companies with larger numbers of employees.

Recommendation #5: Ontario's toxic use reduction law should cover all sectors that report to NPRI. This includes manufacturing, mining, forestry, electric utilities, hazardous waste treatment and solvent recovery facilities, chemical wholesalers, and petroleum bulk terminals, as well as the oil and gas sector, sewage treatment plants, and incinerators.

In addition, all companies with 5 or more full-time employees using more than threshold

[50] New Jersey Department of Environmental Protection, "Industrial Pollution Prevention in New Jersey: A Trends Analysis of Materials Accounting Data 1994 to 2004", Spring 2007, p. 15.
[51] These correspond with the SIC codes 10-14 for mining, 20-39 for manufacturing, 40, 44-49 for transportation, wholesale trades (50 and 51) and service industries 72,73,75 and 76. They are identified in Chapter 21I: Section 10, Toxics Use Reduction Act.
[52] Environment Canada, "National Pollutant Release Inventory: About the NPRI", 1998.

amounts of listed chemicals should be required to report their use of these chemicals and should be governed by the legislation.

6.6 Pollution Prevention Plans

Pollution prevention plans are an essential element for implementing toxics use reductions and finding safer alternatives. Companies that do pollution prevention plans are able to identify significant opportunities for reducing or controlling toxic chemicals in their processes, and for changing to safer chemicals.

New Jersey's *Pollution Prevention Act* requires about 700 facilities, which are the largest users of hazardous substances, to develop pollution prevention plans, maintain copies of the plans at their facilities and submit summaries of plans to the Department of Environmental Protection every 5 years. The Act sets out very specific and detailed requirements for the content of the plans. The plans must:

- document the use and generation of hazardous substances from each major production process within a facility;
- establish pollution prevention goals; and,
- identify prevention strategies or practices that will achieve these goals.

Facilities are not required to implement the plans they develop. The rationale was that:

> In making the planning mandatory and the implementation voluntary, the pollution prevention regulations assumed that the economic benefits of implementation would become apparent and facilities would voluntarily implement them. Also, voluntary implementation would not discourage facilities from establishing ambitious goals.[53]

In Massachusetts, pollution prevention plans must include:

- a corporate toxics use reduction policy statement;
- an analysis of current and projected toxics use, by-product generation and emissions;
- a list of available toxic use reduction options, an evaluation of the options that appear to be technically and economically feasible, the anticipated costs and anticipated savings; and,
- a description and a schedule for the options to be implemented.

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[53] Aucott, Michael, Debra Wachspress and Jeanne Herb, "Industrial Pollution Prevention Trends in New Jersey", December 1996.

At the beginning of the pollution prevention planning process, Massachusetts companies must notify their employees. In some companies, the involvement of employees in the pollution prevention planning process has led to the identification of significant toxics use reduction opportunities.[54]

Like New Jersey, Massachusetts' companies do not have to submit the plans to the Department of Environmental Protection, and are not legally obliged to implement them. Only summaries of pollution prevention plans are submitted every two years. Plans must also be updated every two years at least twice. After the initial plan and two updates have been done, companies can prepare a resource conservation plan or an environmental management system in lieu of a toxics use reduction plan.

The mandatory preparation of plans and voluntary implementation has been a successful strategy in reducing toxics, particularly in Massachusetts. Massachusetts found that 70% of firms identified toxics use reduction options in their plans. And, even though implementation was not mandatory, 81% of these firms implemented at least some of these options.

Even in Ontario, there has been some experience with pollution prevention planning. In 1998, the City of Toronto introduced a new Sewer Use By-law that required pollution prevention planning in order to improve the quality of sewage sludge.

The Sewer Use By-Law established a list of 38 chemicals and set threshold limits for their release into City sewers. The by-law required any industry that discharged one of these pollutants into the sewer system to prepare a pollution prevention plan, and submit a summary of the plan to the City.

Pollution prevention plans included a description of pollution prevention options for regulated pollutants, and an evaluation of those options. As well, companies were required to include a list of possible three- and six-year targets to reduce or eliminate these pollutants. Updates were required every two years. The City has now reviewed more than 4,000 pollution prevention plans.

As a result of the bylaw, companies have reduced toxic substances being discharged to the Toronto sewers. For example, some auto body refinishing operations have switched to water-based paints. Discharges of mercury to the sewage treatment plants have been reduced by 40 per cent, and continue to decline, and there have also been significant reductions in arsenic, molybdenum and selenium.[55] As well, the bylaw put the City of Toronto in a better position to meet subsequent federal regulations of sewage treatment plant effluents.[56]

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[54] Roelofs, Cora R. Rafael Moure-Eraso and Michael J. Ellenbecker (2000) Pollution Prevention and the Work Environment: The Massachusetts Experience, Applied Occupational and Environmental Hygiene 15(11), p. 850.

[55] Personal Communication with Vijay Ratnaparkhe, Pollution Prevention Officer, City of Toronto, Toronto, Ontario, August 2004.

[56] Ratnaparkhe, Vijay and Diane Sertic (2006) The City of Toronto's Sewer Use By-law and Pollution Prevention, Journal of Cleaner Production 14 (6-7): 580-588. The By-Law helped to better position the

Recommendation #6: Under Ontario's toxics use reduction legislation, the development of pollution prevention plans must be made mandatory. However, decisions on the implementation of the plan would be up to the facility.

At a minimum, pollution prevention plans should include:

- an analysis of existing or projected processes that use or generate toxic substances or wastes;
- the identification of available toxics use reduction options, and an evaluation of the options that appear to be technically and economically feasible;
- the identification of options to be implemented and a timetable for their implementation;
- the establishment of numeric or other specific performance goals; and,
- the implementation of selected options.[57]

Plans should be revised every two years on an ongoing basis.

6.7 Materials Accounting

Materials accounting is a different and more comprehensive way of tracking hazardous chemicals. It has been identified by companies that have done pollution prevention plans as *the most valuable* component of the planning process.[58]

A materials accounting system requires facilities to track and report on the fates of hazardous substances that they bring into their facility. The requirements go beyond the reporting requirements of the TRI and the NPRI, which ask only for information on releases and transfers from a facility.

In contrast, for materials accounting, companies must calculate all the materials brought on site, used and produced at the facility, and ensure that the total quantity of outputs matches the total inputs. Outputs include materials shipped off-site as product or waste, released to air, water or land, materials transferred or treated on site and the remaining inventories.

City of Toronto in addressing the Canadian Environmental Protection Act P2 Planning notice for Inorganic Chloramines and Chlorinated Wastewater Effluents, published in 2004.

[57] The recommended elements of a pollution prevention plan are adapted from the National Pollution Prevention Roundtable, Facility Planning Workgroup White Paper, "Facility Pollution Prevention Planning Requirements: An Overview of State Program Evaluations", 1997. Accessible at www.p2.org/inforesources/facil-pl.html

[58] Geiser, Ken, "Massachusetts Toxics Use Reduction Program Update", Environmental Carcinogen Reduction Use Symposium, Toronto, February 6, 2007.

Materials accounting is necessary to planning toxics use reductions. It is the means by which managers understand how chemicals are used in facilities, and their potential impact on the community. Studies show that prior to doing pollution prevention plans, many facility managers were unaware of the volumes of chemicals used in their operations.[59]

Both Massachusetts and New Jersey require facilities to provide the state with materials accounting data. In New Jersey, materials accounting data is reported as a Release and Pollution Prevention Report that includes approximately 20 different quantities, showing the flow of substances through a facility.[60] Materials accounting requirements forced many New Jersey industries to calculate efficiencies for the first time.

Furthermore, in both states this information is made available to the public. New Jersey, for example, publishes a Community Right to Know Annual Report that summarizes the materials accounting data submitted by facilities in their state. In Massachusetts, this data can be found on the website of the Toxics Use Reduction Institute.[61]

Although many industries initially challenged this type of reporting as an unnecessary intrusion by government, consultants evaluating the Massachusetts program found that materials accounting and development of toxics use reduction options were rated as the "most valuable" components of the program.[62]

Materials accounting is also valuable to government regulators because of the unique information it provides. The New Jersey Department of Environmental Protection uses the data in two important ways:

- To identify priorities for programs by conducting analyses of significant contributors to releases, variations over time, geographic patterns and other analyses; and
- To provide a better understanding of facility operations during permit reviews and compliance inspections.[63]

The introduction of materials accounting in Ontario would be a significant advance over the current reporting requirements in Canada. Canada's NPRI reporting does not include such a complete accounting. For example, it does not include reporting on materials transported into and used by the facility, although the federal government did collect

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[59] O'Rourke, Dara & Eungkyoon Lee (2004) Mandatory Planning for environmental Innovation: Evaluating Regulatory Mechanisms for Toxics Use Reduction, Journal of Environmental Planning & Management, Vol. 47, No. 2, p. 192.

[60] N.J. Dept. of Environmental Pollution, "Industrial Pollution Prevention in New Jersey: A Trends Analysis of Materials Accounting Data 1994 to 2004" Spring 2007.

[61] TURAData, "A community guide to toxics information from Massachusetts' Toxics Use Reduction Act. Accessible at www.turadata.turi.org/

[62] Massachusetts Toxics Use Reduction Institute, "Survey Evaluation of the Massachusetts Toxics Use Reduction Program", Methods and Policy Report No. 14, 1997, p. 18.

[63] Ibid. p. 10.

some use data in 1986 in support of the categorization work under the *Canadian Environmental Protection Act.* Nor does it require reporting on materials incorporated into products shipped out of the facility. Some facilities reporting to the NPRI, however, already collect this data, and use them to calculate their releases and transfers.

Ontario's Ministry of the Environment could benefit enormously from having materials accounting data from major facilities. This information allows government agencies to evaluate facilities and assess priorities for permit reviews, for compliance inspections and for technical assistance. In New Jersey, for example, these data have shown which facilities were out of compliance, and triggered state efforts to reduce emissions.[64]

Like the NPRI data, the materials accounting data should be available to the public on a facility-specific and chemical-specific basis on the Internet, as it is in Massachusetts and New Jersey.

Recommendation #7: The reporting of materials accounting data to the government on an annual basis, along with emissions reporting, should be a required element in Ontario's toxics use reduction law. In addition, materials accounting data should be made public by the government, and this information should be available on the Internet on a facility-specific and chemical-specific basis, as it is in Massachusetts and New Jersey.

6.8 Pollution Prevention Planners

An important feature of the Massachusetts' framework for pollution prevention plans is the requirement that plans be approved by a state-certified toxics use reduction planner. Planners are trained at the University of Massachusetts to understand industrial processes and to recognize opportunities for pollution prevention.

The requirements that certified planners approve plans ensure that industries are held to a certain standard of accountability for their pollution prevention work, and that longer term economic benefits of pollution prevention investments are considered. They also give facilities the advantage of the knowledge of best practices, including safer chemicals and processes, that a trained planner brings to the discussion.

As well, planners can also contribute to improvements in the workplace. Although toxics use reduction activities in Massachusetts have resulted in healthier workplaces, a study found that these improvements were an indirect, rather than a direct, result of these

[64] New Jersey Department of Environmental Protection, Industrial Pollution Prevention in New Jersey: A Trends Analysis of Materials Accounting Data 1994 to 2004, p. 10.

activities. It concluded that worker health and safety issues should be more integrated into pollution prevention activities.[65]

Ontario could build on Massachusetts' experience, and educate pollution prevention planners not only in pollution prevention opportunities but also in workplace health and safety. This would ensure that substitution or process changes that reduce toxic emissions to the environment do not increase them within a workplace.

Recommendation #8: Ontario should require approval of pollution prevention plans by provincially-certified pollution prevention planners. These planners should also be trained in workplace health and safety measures.

6.9 Reporting and Information Disclosure

Reporting and public disclosure requirements under toxics reduction legislation are a balance between the protection of confidential business information and the public interest in being aware of the polluting activities that affect their communities.

In New Jersey and Massachusetts, detailed pollution prevention plans are not publicly available, but are kept on-site and must be available to the state inspectors. However, summaries of plans are submitted to the state government every two years and made available to the public. Progress reports that document the implementation of pollution prevention activities are also submitted to the state every year. Massachusetts has a provision that residents living within 10 miles of a facility may petition the Department of Environmental Protection to examine the company's plan and determine its adequacy.[66]

Ontario should ensure that summaries of plans are sent to the government every two years, and that these summaries be publicly available. Ontario should also require companies to make these plans available to Ministry of Environment inspectors on demand.

Recommendation #9: Ontario should require companies to keep pollution prevention plans on-site and available to the Ministry of Environment's inspectors. Summaries of plans should be submitted to the Ministry every 2 years, and the government should make summaries available to the public on request.

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[65] Roelofs, Cora R, Rafael Moure-Eraso and Michael J. Ellenbecker (2000) Pollution Prevention and the Work Environment: The Massachusetts Experience, *Applied Occupational and Environmental Hygiene* 15 (11): 843-50,

[66] Massachusetts Toxics Use Reduction Act, Chapter 21I, Section 18(B).

6.10 Confidential Business Information

A major issue for industry where emissions reporting and materials accounting are required is the problem of this information revealing trade secrets and causing harm to a company's competitive position. This concern has also been raised with NPRI and other information disclosure laws.

To address this, these laws include mechanisms for allowing companies to make trade secret claims, and protect details of their manufacturing processes. Toxics use reduction laws, like other reporting laws, should also include provisions that allow companies to protect trade secrets. If a company believes information will put it at a competitive disadvantage by revealing information about products or processes, companies should be able to make a claim to the government and have it fairly evaluated. Experience in Canada with trade secret provisions under NPRI show that although trade secret provisions are in place, few companies make claims.[67]

Recommendation #10: Ontario should include provisions in its toxics use reduction legislation that allow companies to make valid claims of confidentiality. However, these provisions should be properly examined, and should not be used to interfere with the intent of the legislation and the public's right to know.

6.11 Community Right to Know

The Ontario legislature began the process of designing and approving legislation that would warn consumers of carcinogens and improve the community's ability to get access to environmental information.[68] In 2006, a private member's bill, Bill 164, *The Community Right to Know Act*, passed 1st and 2nd readings, but was interrupted by the provincial election, and did not go through the full legislative process to become law.

The Bill proposed amendments to the *Consumer Protection Act* that suppliers of consumer goods or services would be required to warn consumers of exposures to toxic substances that caused cancer or reproductive toxicity. Substances listed as carcinogens by the International Agency for Research on Cancer (IARC) would be considered toxic substances, in addition to other substances prescribed as causing cancer or reproductive toxicity.

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[67] Environment Canada, National Overview: Summary of 2002 Data, National Pollutant Release Inventory.
[68] Bill 164, The Community Right to Know Act 2006. Accessible at http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=502&detailPage=bills_detail_the_bill

Giving people the information on hazardous ingredients in products is an important element of toxics use reduction. If consumers know that a product contains a toxic chemical and they have the choice of a safer alternative, it is more likely that they would choose the safer product.

This is the idea behind the California *Safe Drinking Water and Toxic Enforcement Act* (Proposition 65). This law requires businesses that "knowingly and intentionally" expose anyone to a chemical that causes cancer or reproductive harm to give "clear and reasonable warning."[69] Businesses with less than 10 employees are exempt. Warnings can be given by labels on consumer products, by signs, or through notices published in newspapers. A Proposition 65 list of chemicals – those that cause cancer or reproductive harm – must be published by the Governor of California at least once every year.

Another provision of the proposed *Community Right to Know Act* allowed or facilitated citizens' access to a provincial inventory of information collected by the Ministry of the Environment under different environmental statutes, such as drinking water information collected under the *Safe Drinking Water Act*. Also, a third important provision of the bill required companies to give firefighters material safety data sheets for the toxic substances used at their facilities.

The development of toxics use reduction legislation is an opportunity to incorporate the proposals in this widely-accepted Bill into a suitable legislative framework. As part of its toxics use reduction program, Ontario should include provisions that require companies to warn consumers when a product contains a toxic chemical, such as a carcinogen or reproductive toxin. In addition, Ontario should give citizens access to environmental information collected by the Ministry of Environment, as set out in Bill 164, and require companies to provide the fire department in the community in which they are located with material safety data sheets.[70]

Recommendation #11: Ontario should include in its toxics use reduction legislation community right-to-know provisions that:

- require companies using carcinogens or reproductive toxins in their products to warn consumers;
- allow public access to government-collected environmental information; and,
- require companies to provide the fire department which serves the location of its workplace with material safety data sheets.

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[69] Office of Environmental Health Hazard Assessment, "Proposition 65". Accessible at http://www.oehha.org/prop65.html

[70] Bill 164 establishes a pollutant inventory that contains information collected by the Ontario Ministry of Environment, including air and water emissions, source water protection plans, adverse drinking water reports, nutrient management plans and notices under the Pesticides Act.

6.12 Technical Assistance Programs

A key to Massachusetts' success in reducing toxics was the establishment of institutions to support the program. More jurisdictions are now recognizing the need for institutions with knowledge and expertise in toxics use reduction and safer alternatives that can help businesses shift to better environmental practices.

The interest in reducing toxics and moving to safer alternatives has been driven, in part, by stringent European regulations. To market certain products internationally, many companies need to ensure that their products meet the higher European standards. For example, the European Union's Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive (RoHS) prohibits the use of lead, mercury, hexavalent chromium and certain brominated flame retardants in electric and electronic products.[71] Manufacturers in the United States and Canada need to eliminate these common metals from their products in order to sell to one of the world's largest markets.

An important goal of the Massachusetts legislation was to ensure that Massachusetts' businesses were internationally competitive. To assist companies in carrying out pollution prevention activities and to deepen their home-grown expertise in pollution prevention, Massachusetts established two institutions under its legislation – the Office of Technology Assistance (OTA), located in the Massachusetts' state Executive Office of Energy, and Environmental Affairs and the Toxics Use Reduction Institute (TURI), at the University of Massachusetts Lowell.

The OTA provides on-site free technical and compliance advice to manufacturers, businesses and institutions. In addition, it promotes the development of innovative toxics use reduction technologies, and sponsors workshops and conferences for specific sectors on toxics use reduction opportunities.

> OTA has been a pioneer in many technical transfer programmes and outreach projects...used as models by other states.
>
> M. Becker and Ken Geiser, Evaluating Progress: A Report on the Findings of the Massachusetts Toxics Use Reduction Program

TURI was also established to promote "comprehensive environmental management practices, inherently safer products and materials, and the efficient use of resources".[72] With $1.2 million per year allocated from the state budget, TURI has a wide range of responsibilities with respect to encouraging toxics use reduction including providing

[71] European Commission, Environment, "Waste Electrical and Electronic Equipment", Directive 2002/95/EC. Accessible at www.ec.europa.eu/environment/waste/weee/index_en.htm
[72] Massachusetts TURA, Chapter 21I, Section 6.

technical assistance for individuals, promoting research, pilot projects and demonstrations of innovative technologies, and outreach to small businesses. TURI also developed and runs the training program for toxics use reduction planners.

Ontario's toxics use reduction legislation should establish technical support services and technology assistance for affected industries. We recommend that the government establish a university-based research institute that advances our knowledge and expertise in toxics use reduction activities, safer substitution and green chemistry.

Recommendation #12: Ontario's toxics use program should include the establishment of an independent university-based research institute to advance the province's capacity for toxics use reduction activities, safe substitution and green chemistry.

6.13 Safer Substitution and Elimination of Highly Hazardous Chemicals

Massachusetts is in the process of moving ahead with legislation that would promote the identification and development of safer substitutes for highly hazardous chemicals, as described in Section 5.1. The legislation builds on its already well-established framework for toxics use reduction. Ontario has the opportunity to integrate the toxics use reduction framework established in Massachusetts, the more recent safer substitution initiative and provisions for the elimination of specific toxic substances into a single coherent legislative package.

In its proposed legislation, Massachusetts will identify chemicals of high concern for which substitutes are available. The work of creating a tiered system to identify chemicals of concern has already been carried out in Canada. Under the *Canadian Environmental Protection Act* (CEPA), Canada has identified more than 4000 chemicals of concern and categorized them into three categories -- high priority, medium priority and low priority. However, the Canadian government has not developed a framework for identifying and assessing safer alternatives for these chemicals.

In Massachusetts, this system of priority setting will be the foundation for substitution analysis and subsequent action. Those chemicals, which present the greatest hazard to health and the environment, will be targeted for alternatives assessment and eventual replacement. Part of the staged approach will include research that identifies less toxic or non-toxic alternatives. Once appropriate substitutes have been found to replace a hazardous chemical and their feasibility is proven, companies would be required to plan for substitutions.

This categorization of chemicals and planning for replacement of the most hazardous ones is being incorporated into new chemicals legislation in both Europe and some states in the United States. Canada's categorization work, for example, would be considered by

Massachusetts under the proposed *Safer Alternatives Bill* and is being taken into account in Maine, California and the European Union.

As part of its new toxics use reduction legislation, Ontario should create a staged approach to the identification of safer alternatives and a process that would require planning for replacing high hazard chemicals with safer alternatives. When a hazardous chemical of high concern is identified, companies would have to create substitution plans for replacing the substance with a more suitable, less-toxic alternative. The province should also have the legislative ability to prohibit and, therefore, eliminate the use of specific chemical substances without substitution planning when substances are found to be extremely hazardous to the environment and to human health.

Ontario can also take advantage of the most current thinking in chemicals management policy, and promote research and development into safer alternatives to toxic chemicals in its new legislation. This strategy of identifying and assessing safer alternatives for known hazardous chemicals is another element of the proposed legislation that will drive innovation and the development of green chemistry in the province.

Furthermore, a major investigation, called CAREX Canada (CARcinogen EXposure), is being conducted by researchers at the Universities of British Columbia and Victoria.[73] It will identify the number of Canadians exposed to IARC carcinogens, and will determine at what levels potential exposure may occur and the extent of any geographic variations. The results of these investigations could help Ontario prioritize those carcinogens that should be the highest priorities for reduction and substitution.

[73] Demers, Paul, Cheryl Peters, Eleanor Setton, Perry Hystad & Anne-Marie Nicol, "Priority Environmental Carcinogens for Surveillance in Canada: Preliminary Priority List", April 2008. Information on CAREX Canada is available at carexcanada.ca

Recommendation #13: Provisions for the systematic substitution of safer chemicals for known chemicals of high concern and the elimination of all uses of specific priority toxic substances, where appropriate, should be incorporated into Ontario's toxics use reduction legislation. A legislative framework for safer substitution would include:

- A process for the development of a tiered list of Ontario chemicals to identify the high hazard chemicals that would be candidates for substitution and/or elimination;
- An analysis of suitable alternatives for high hazard chemicals;
- The preparation of government plans to establish a province-wide priority for substitution and/or elimination based on the danger of each chemical, and the availability of substitutes;
- The establishment of deadlines for implementing safer alternatives or the elimination of usage;
- Requirements that companies develop substitution plans for designated chemicals, or, if necessary, apply for time-limited waivers;
- Requirements that companies' recommendations of actions with respect to designated toxic substances include elimination, where appropriate, based upon considerations of the risk posed to human health and the environment, and the feasibility of safer alternatives; and,
- An assistance program that helps businesses to comply with their legislative obligations.

6.14 Toxics Use Fee

A toxics use reduction and safe substitution program could be financed entirely by a fee on the use of toxic chemicals. This is how the program was started in Massachusetts, and Ontario could implement a similar fee structure.

Massachusetts requires companies that are covered by the Act to pay annual toxic use fees. These fees are based on a sliding scale that takes into account the number of employees at a facility and the number of listed chemicals that it manufactures, processes or uses. For example, a firm employing between 10 and 50 employees pays a base fee of $500. This base fee increases by $300 for each listed toxic or hazardous substance it uses but not exceeding $1,500 in total. These fees raise between $3.5 and $4.5 million on an annual basis for the toxics use reduction program.

Recent amendments to TURA include the authority to raise fees for higher hazard chemicals, and lower fees for lower hazard chemicals.

Fee systems have already been implemented in Ontario to finance environmental programs on a cost recovery basis such as the disposal of hazardous wastes. The Ontario Ministry of the Environment requires generators of hazardous and liquid industrial waste to pay a registration fee, a manifest fee and fees based on tonnes of waste disposed.[74]

Ontario should fund its toxics use reduction legislation and program through a fee for toxic chemical use in the province. This creates an incentive for companies to reduce or replace their use and emissions of toxic chemicals so that they also reduce or eliminate the fees.

Recommendation #14: Ontario's toxics use reduction program should be financed by fees levied on the number of listed toxic chemicals used by a facility, based on a formula developed by the province. This would include the financing of an independent research institute, specializing in toxics use reduction, safe substitution and green chemistry, as described in Recommendation #11.

7. A Challenge for Ontario

This year, support for a toxics free world has sharpened into a tangible agenda for the future.

In Ontario, diverse voices are merging into a collective message to our leaders. Parents are expressing alarm at new knowledge of toxic threats from baby bottles, coatings on clothes, and flame retardants in the electronics in their homes. Health advocates have joined with labour and environmental groups to press for their right to know about toxic exposures in the workplace and the environment that contribute to illnesses like cancers, asthma and heart disease.

Labour groups are calling for a greening of the economy that would transform polluting jobs to green ones, and create new foundations for Ontario's economy. "Make Poverty History" has become a slogan to many who want to turn around the haemorrhaging of manufacturing jobs that is deepening the poverty prospects for future generations.

Leadership is needed to steer the province away from "has not" predictions to being a North American leader and innovator. A toxic use reduction strategy has the potential to drive the societal change that many people in Ontario are looking for.

It is clear that longer-term planning horizons are needed to anticipate and prevent the problems that are piling up in the province. These problems cannot be solved in silos only

[74] Ministry of the Environment, "Minister's Requirement for Hazardous Waste Fees" Accessible at http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm

by industry or governments, but need our collective efforts to arrive at healthy communities, healthy economies and healthy environments.

8. Summary of Recommendations

Recommendation #1: Ontario should adopt an overall goal for the province of a 50% reduction in the *release* of toxic substances in the province within 5 years of the passage of the legislation.

In addition, we recommend a 20% reduction in the *use* of toxic substances in the province within 5 years after the first mandated reporting period, and a 40% reduction in use within 10 years.

Recommendation #2: New Ontario legislation should define "toxics use reduction" to mean –

In-plant changes in the production process of raw materials that reduce, avoid, or eliminate the use of toxic substances or the generation of toxic substance byproducts per unit of product, so as to reduce risks to the health of the public, workers, consumers, or the environment, without shifting risks between the public, workers, consumers, or parts of the environment.

Toxics use reductions shall be achieved through input substitution, product reformulation, production process redesign or modification, production process modernization, improved operation and maintenance of production process equipment and methods, or recycling, reuse, or extended use of toxic substances by using equipment or methods that become an integral part of the production process of concern.

Toxics use reduction does not include incineration, transfer from one medium of release to other media, off-site or out-of-production process waste recycling, or methods of end-of-pipe treatment of toxic substances as waste.

Recommendation #3: Ontario should establish a list of reportable chemicals as part of its toxics use reduction law that includes:[75]

- the National Pollutant Release Inventory (NPRI) as the basic list of substances that companies must report;
- the 193 high hazard substances identified under the federal government's Chemicals Management Plan;
- carcinogens identified by the International Agency for Research on Cancer (IARC), carcinogens listed by the U.S. National Toxicology Program, and substances listed by the California *Safe Drinking Water and Toxic Enforcement Act* of 1986 (known as Proposition 65) as carcinogens and

[75] The duplication of chemicals on these lists would need to be considered in the process of creating a list for Ontario.

reproductive toxins, which are not already listed on the NPRI and which are used in Ontario.

A second phase of additions to the Ontario list of reportable chemicals should include medium hazard chemicals as identified by the federal government's Chemicals Management Plan. This should be done within 5 years of the passage of Ontario's legislation.

Recommendation #4: The threshold level, at which high hazard chemicals should be reported, should be lower than the established NPRI reporting threshold of 10 tonnes or 10,000 kilograms. Under Ontario's law, reporting thresholds should be 50 kilograms 1) for chemicals, which are carcinogenic or toxic to reproduction, and, 2) for chemicals, which are persistent, bioaccumulative and toxic.

Recommendation #5: Ontario's toxic use reduction law should cover all sectors that report to NPRI. This includes manufacturing, mining, forestry, electric utilities, hazardous waste treatment and solvent recovery facilities, chemical wholesalers, and petroleum bulk terminals, as well as the oil and gas sector, sewage treatment plants, and incinerators.

In addition, all companies with 5 or more full-time employees using more than threshold amounts of listed chemicals should be required to report their use of these chemicals and should be governed by the legislation.

Recommendation #6: Under Ontario's toxics use reduction legislation, the development of pollution prevention plans must be made mandatory. However, decisions on the implementation of the plan would be up to the facility. At a minimum, pollution prevention plans should include:

- an analysis of existing or projected processes that use or generate toxic substances or wastes;
- the identification of available toxics use reduction options, and an evaluation of the options that appear to be technically and economically feasible;
- the identification of options to be implemented and a timetable for their implementation;
- the establishment of numeric or other specific performance goals; and,
- the implementation of selected options.[76]

Plans should be revised every two years on an ongoing basis.

Recommendation #7: The reporting of materials accounting data to the government on an annual basis, along with emissions reporting, should be a required element in

[76] The recommended elements of a pollution prevention plan are adapted from the National Pollution Prevention Roundtable, Facility Planning Workgroup White Paper, "Facility Pollution Prevention Planning Requirements: An Overview of State Program Evaluations", 1997. Accessible at www.p2.org/inforesources/facil-pl.html

Ontario's toxics use reduction law. In addition, materials accounting data should be made public by the government, and this information should be available on the Internet on a facility-specific and chemical-specific basis, as it is in Massachusetts and New Jersey.

Recommendation #8: Ontario should require approval of pollution prevention plans by provincially-certified pollution prevention planners. These planners should also be trained in workplace health and safety measures.

Recommendation #9: Ontario should require companies to keep pollution prevention plans on-site and available to the Ministry of Environment's inspectors. Summaries of plans should be submitted to the Ministry every 2 years, and the government should make summaries available to the public on request.

Recommendation #10: Ontario should include provisions in its toxics use reduction legislation that allow companies to make valid claims of confidentiality. However, these provisions should be properly examined, and should not be used to interfere with the intent of the legislation and the public's right to know.

Recommendation #11: Ontario should include in its toxics use reduction legislation community right-to-know provisions that:

- require companies using carcinogens or reproductive toxins in their products to warn consumers;
- allow public access to government-collected environmental information; and,
- require companies to provide the fire department which serves the location of its workplace with material safety data sheets.

Recommendation #12: Ontario's toxics use program should include the establishment of an independent university-based research institute to advance the province's capacity for toxics use reduction activities, safe substitution and green chemistry.

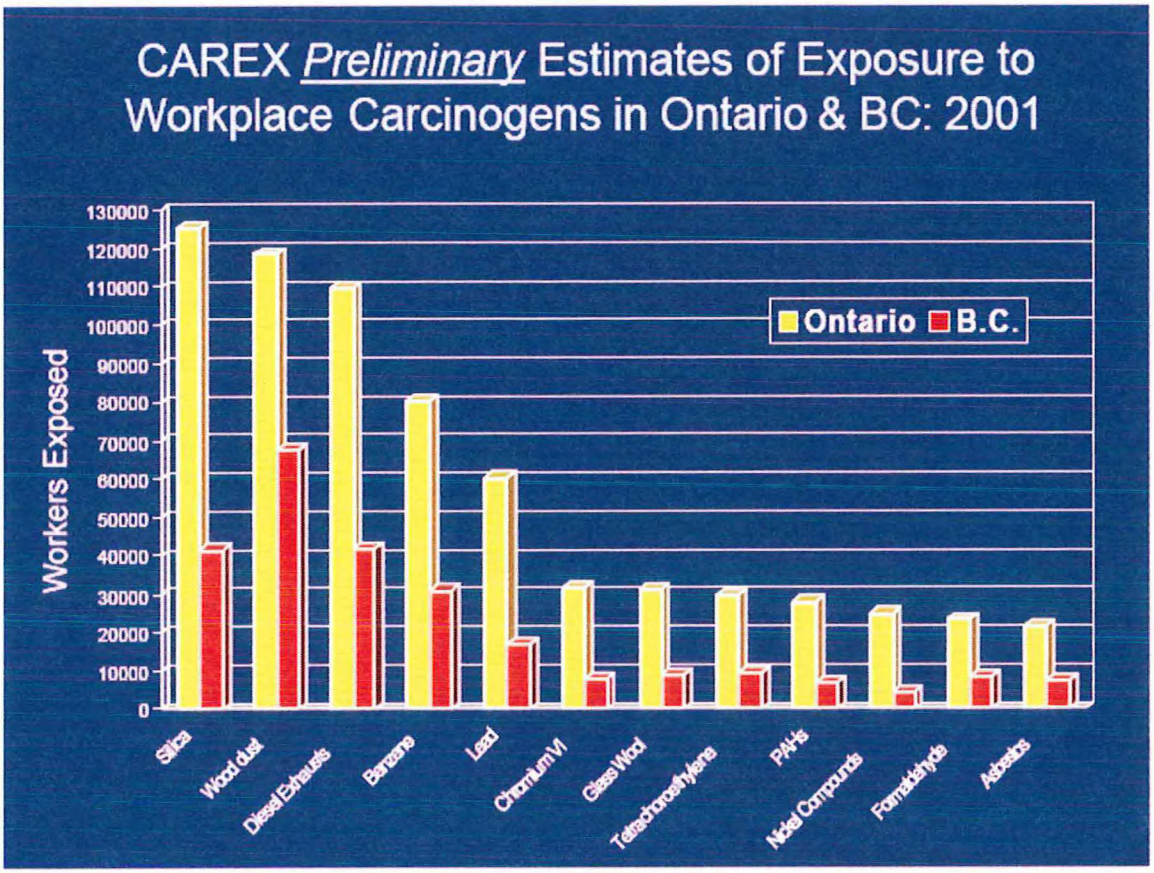
Recommendation #13: Provisions for the systematic substitution of safer chemicals for known chemicals of high concern and the elimination of all uses of specific priority toxic substances, where appropriate, should be incorporated into Ontario's toxics use reduction legislation. A legislative framework for safer substitution would include:

- A process for the development of a tiered list of Ontario chemicals to identify the high hazard chemicals that would be candidates for substitution and/or elimination;
- An analysis of suitable alternatives for high hazard chemicals;
- The preparation of government plans to establish a province-wide priority for substitution and/or elimination based on the danger of each chemical, and the availability of substitutes;
- The establishment of deadlines for implementing safer alternatives or the elimination of usage;

- Requirements that companies develop substitution plans for designated chemicals, or, if necessary, apply for time-limited waivers;
- Requirements that companies' recommendations of actions with respect to designated toxic substances include elimination, where appropriate, based upon considerations of the risk posed to human health and the environment, and the feasibility of safer alternatives; and,
- An assistance program that helps businesses to comply with their legislative obligations.

Recommendation #14: Ontario's toxics use reduction program should be financed by fees levied on the number of listed toxic chemicals used by a facility, based on a formula developed by the province. This would include the financing of an independent research institute, specializing in toxics use reduction, safe substitution and green chemistry, as described in Recommendation #11.

Appendix I - Chart



From the UBC School of Occupational and Environmental Hygiene/Cancer Care Ontario Project

Appendix II - Scoping a Toxic Use Reduction Law for Ontario

Project Steering Committee

Joe Castrilli – Lawyer with the Canadian Environmental Law Association, Joe will be drafting the Ontario Model Law Toxics Use Reduction Law for this project.

Fe de Leon – Researcher with the Canadian Environmental Law Association, Fe has advanced CELA law reform work on federal and international pollution prevention efforts and has been central to development of our website www.pollutionwatch.org .

Ken Geiser – Professor of Work Environment and Director of the Lowell Center for Sustainable Production at the University of Massachusetts Lowell, Ken is one of the authors of the pioneering Massachusetts Toxics Use Reduction Act and served as Director of their Toxics Use Reduction Institute from its founding in 1990 to 2003.

Ruth Grier – As former NDP Minister of Health and Minister of the Environment, Ruth enabled the Ontario Taskforce on the Primary Prevention of Cancer. In her "retirement" she is working on numerous efforts to put primary prevention into practice.

John Jackson – A CELA Board Member, John is the Clean Production and Toxics Campaign Coordinator of Great Lakes United. He is also on the National Pollutant Release Inventory Working Group and is an expert on Ontario waste reduction.

Andy King – The National Health, Safety, and Environment Co-ordinator and Department Leader for the United Steelworkers, Andy is Co-Chair of the Toronto Cancer Prevention's Occupational and Environmental Work Group that has successfully campaigned for improved Community Right-to-Know in Toronto.

Richard Lindgren - Staff lawyer with the Canadian Environmental Law Association, Rick represents citizens' groups in the courts and before tribunals on a wide variety of environmental issues. Rick was instrumental in our campaign that led to Ontario's Environmental Bill of Rights.

Theresa McClenaghan - The Executive Director of the Canadian Environmental Law Association, Theresa has just returned from the former Ontario Minister of the Environment's staff where she advised on Ontario's recent Clean Water Act which is mandating drinking water source protection. She has also worked on a number of CELA law reform projects on children's health and pesticides.

Sarah Miller – Researcher and Coordinator of the Canadian Environmental Law Association, Sarah raised funds for this project which she will coordinate. She represents CELA on three cancer prevention committees at the federal, provincial and local levels.

Michael Perley - Director of the Ontario Campaign for Action on Tobacco and a consultant to the Ontario Medical Association, Michael has been a successful advocate for prevention legislation for tobacco control in Ontario.

Sarah Rang – Founding Partner of Environmental Economics International,
Sarah has been a Team Member for trilateral project analysing national pollutant release inventories in North America for the Commission for Environmental Cooperation, an

international environmental agency. This work results in annual reports on pollution in North America, called *Taking Stock.*

Chris Wolnik – Executive Director of the Canadian Centre for Pollution Prevention for the past six years, Chris is responsible for C2P2's pollution prevention (P2) programs including education and outreach, p2 program support, research, and training.

Anne Wordsworth - A CELA Research Associate, Anne has written numerous reports on best practices in pollution prevention. She is a writer and former producer for CBC's Health Show. Anne will be writing the background report for this project.

GUESTS/ADVISORS

Nick de Carlo - Staff and National Representative in the Health, Safety and Environment Department of the Canadian Auto Workers, Nick has campaigned on extended producer responsibility, justice for asbestos workers and worked on a CAW campaign to reduce the use of carcinogens in their workplaces.

Judah Harrison – Environmental lawyer, Judah is helping on this project with background research on Ontario laws requiring control of toxics in the environment and the workplace.

Carol Mee - Supervisor of Environmental Information and Education at Toronto Public Health's Environmental Protection Office, Carol has been involved in developing smoking bylaws, State of the City reports, the Environmental Plan, the Pesticide Bylaw and more recently is developing policy about community right-to-know issues.

Kaitlyn Mitchell – CELA's Articling Student, Kaitlyn will be recording the proceedings of this workshop.

Rich Whate - A Health Promotion Consultant with Toronto Public Health's Environmental Protection Office, Rich is currently involved in the implementation of the Pesticide Bylaw and projects regarding Community Right-to-Know and cancer prevention.

ONTARIO TOXICS USE REDUCTION AND SAFER ALTERNATIVES ACT, 2008

A MODEL BILL

Prepared by

Joseph F. Castrilli
Counsel
CANADIAN ENVIRONMENTAL LAW ASSOCIATION
Toronto, Ontario

AUGUST 2008

Ontario Toxics Use Reduction and Safer Alternatives Act, 2008

Explanatory Note

The purposes of the Act are to (1) promote public and workplace health and safety, and protection of the environment in Ontario by establishing provincial targets for the reduction in the manufacture, production, use, and release of toxic substances in the province, (2) promote the use of safer alternatives to toxic substances, and (3) recognize the public right to information on such substances. The targets are to be achieved by requiring industrial facilities that use more than a certain amount of listed toxic substances to (1) prepare a toxics use reduction plan in which they examine how, where, and why the substances are used at their facilities, (2) evaluate options for reducing such usage, and (3) report annually to the Minister of the Environment the quantities of such substances manufactured, processed, used, contained in products, or released to the environment.

For certain priority toxic substances identified pursuant to the requirements of the Act, the province, following the production of assessment reports on safer alternatives to such substances, will prepare alternatives action plans. These provincial plans will act as a model for individual implementation plans and reporting by manufacturers and users of priority toxic substances.

To assist firms in meeting the requirements of the Act, the law would authorize (1) establishment of an Ontario Toxics Use Reduction and Safer Alternatives Institute to educate and train professionals and the public as well as sponsor and conduct research, (2) certification of toxics use reduction and safer alternatives planners by the Institute, and (3) establishment of technical assistance programs for businesses and employees.

The Act would (1) recognize the right of the public to obtain certain information about toxic substances manufactured or used in their communities, and (2) authorize public access to the courts to ensure deadlines set out in the law were met with respect to such matters as the preparation of toxics use reduction and safer alternatives plans.

To offset the costs of administration of the Act and the Institute, the law would authorize the establishment of a Fund financed by an annual toxics use fee to be imposed on industrial facilities that are subject to the Act's requirements. The fee would vary depending on both the toxicity and annual quantity of each of the substances manufactured or used by a facility.

This model bill contains the full text for Parts I-VII of the Bill addressing the following matters: (1) interpretation, (2) administration, (3) toxics use reduction, (4) safer alternatives to toxic substances, (5) toxics use reduction and safer alternatives planning, (6) financial and technical assistance measures, and (7) public participation, as well as portions of Part XI consisting of miscellaneous matters such as confidential business information, conflicts, and regulation-making. Only the headings and subheadings have been provided for Parts VIII-X, which would address matters such as (1) inspections, compliance, and enforcement, (2) appeals, and (3) offences and penalties. The text for these Parts has not been provided as these are standard provisions that would be found, with appropriate changes, in various other provincial environmental laws.

Part I – Interpretation

1. Purposes

1. The purposes of this Act are:

(a) to promote public and workplace health and safety, including protection of sensitive populations, and the environment through the prevention, reduction, or elimination of the manufacture, use, processing, and release of toxic substances;

(b) to promote the use of safer alternatives to toxic substances;

(c) to recognize the right of Ontario residents to know the identity and amounts of toxic substances that are manufactured, used, processed, and released in the workplace and the environment; and

(d) to apply the precautionary principle and principles of sustainable development to the foregoing.

2. Definitions

2. In this Act,

"advisory committee" means the Advisory Committee to the Council on Toxic Use Reduction and Safer Alternatives appointed under section 5;

"byproduct" means all non-product outputs of toxic substances generated by a production process, prior to handling, transfer, treatment, or release;

"CAS number" means the identification number assigned to a substance by the Chemical Abstract Service;

"chemical name" means the scientific designation of a substance in accordance with the nomenclature system developed by the Chemical Abstract Service;

"confidential business information" means information provided to the Minister under this Act or the regulations that is designated as confidential business information by the person who provided it, and that concerns

(a) manufacturing or quality control processes relating to a toxic substance;

(b) methods for determining the composition of a toxic substance;

(c) trade secret, commercial, or financial information

but does not include information that the Minister decides is not confidential business information pursuant to section 56;

"council" means the Council on Toxic Use Reduction and Safer Alternatives appointed under section 5;

"environment" means the air, land, water, plant life, animal life and ecological systems of Ontario;

"Environmental Commissioner of Ontario" means the officer of the Assembly appointed pursuant to the *Environmental Bill of Rights*, S.O. 1993. c. 28;

"facility" means a building, equipment, structure, and other stationary items that are located on a single site or on contiguous or adjacent sites and that are owned or operated by the same person, or a person responsible;

"hazardous waste" means any waste so listed or defined under Regulation 347 of the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended;

"improved operation and maintenance of production unit equipment and methods" means modifying or adding to existing equipment or methods including, but not limited to, such techniques as improved housekeeping practices, system adjustments, product and process inspections, or production unit control equipment or methods;

"industrial facility" means any facility that manufactures, processes, or otherwise uses a toxic substance and that is classified in a NAICS code that is identified in regulations promulgated under this Act;

"input" means the sum of the following categories of each toxic substance:

1. inventory at the industrial facility at the beginning of the accounting period;
2. waste stored at the industrial facility at the beginning of the accounting period;
3. quantity produced at the facility;
4. quantity brought to the facility;

"input substitution" means replacing a toxic substance or raw material used in a production process with a non-toxic or less toxic substance;

"Institute" the Institute on Toxic Use Reduction and Safer Alternatives established under section 6;

"instrument" has the same meaning as that ascribed to the term under the *Environmental Bill of Rights*, S.O. 1993, c. 28;

"manufacture" means to

(a) produce, prepare, import, or compound a toxic substance; and
(b) produce a toxic substance coincidentally during the manufacture, processing, use or disposal of another substance or mixture of substances, including a toxic substance that is separated from that other substance or mixture of substances as a byproduct, and a toxic substance that remains in that other substance or mixture of substances as an impurity;

"materials balance" means an accounting of the flow of individual toxic substances into an industrial facility, through its processes, and into its products and wastes such that inputs equal outputs of each toxic substance to the accuracy of the smallest accounting units for each toxic substance;

"Minister" means the Minister of the Environment;

"Ministry" means the Ministry of the Environment;

"NAICS code" means the North American Industry Classification System (NAICS) 2007 – Canada, as amended from time to time,

"output" means the sum of the following categories of each toxic substance:

1. quantity chemically altered in the industrial facility's processes;
2. quantity shipped from the facility in product;
3. quantity transferred away from the facility as waste;
4. waste stored at the facility at the end of the accounting period;
5. quantity emitted to the air;
6. quantity discharged into sewage systems;
7. quantity released into surface water;
8. quantity recharged to groundwater;
9. quantity eliminated through treatment at the industrial facility;
10. quantity eliminated through energy recovery at the facility;
11. quantity disposed on-site; and
12. inventory at the industrial facility at the end of the accounting period;

"operator" means any person in occupation or having the charge, management, or control of an industrial facility;

"owner" means any person who owns an industrial facility;

"person" means any individual, trust, partnership, company, joint stock company, corporation, association, society, firm, consortium, joint venture, or any commercial or other legal entity engaged in business or providing service;

"person responsible" means an owner or operator;

"precautionary principle" means that where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;

"priority toxic substance" means a toxic substance designated pursuant to the requirements of section 13;

"process" means the preparation of a toxic substance, after its manufacture, for distribution, sale, or use in commerce:

(a) in the same form or physical state, or in a different form or physical state, as that in which it was received at the industrial facility where it is processed; or
(b) as part of an article or product containing the toxic substance;

"product" means a desired result or family of result of a production process that is used as a commodity in trade and commerce by the public in the same form as it is produced and includes a family of products, an intermediate product, or a family of intermediate products;

"product reformulation" means substituting for an existing end-product an end-product that is non-toxic or less toxic upon use, release, or disposal;

"production process" means a process, line, method, activity, or technique, or a series or combination of processes, lines, methods, or techniques used to produce a product or reach a planned result;

"production process modernization" means upgrading or replacing existing production process equipment and methods with other equipment and methods based on the same production process;

"production process redesign or modification" means developing and using production processes of a different design than those currently used;

"registry" means the Toxics Use Reduction and Safer Alternatives Registry established under section 20;

"regulated person" means a person who holds or is required to hold

(a) a certificate of approval, provisional certificate of approval, certificate of property use, licence, or permit under the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended, or

(b) an approval, licence, or permit under the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;

"regulations" means regulations made under this Act;

"release" includes discharge, spray, inject, inoculate, abandon, deposit, dispose, spill, leak, seep, pour, emit, empty, throw, pump, leach, dump, place, or exhaust;

"reportable toxic substance" means a toxic substance that is subject to the requirements of section 8;

"reporting base year" means the year established by regulation for assessing reductions in the use of toxic substances at an industrial facility;

"safer alternative" means an option that includes input substitution as well as including a change in chemical, material, product, process, function, system or other action, whose adoption to replace a toxic substance currently in use would be the most effective in reducing overall potential harm to public and workplace health, safety, or the environment;

"sensitive populations" includes present and future generations of groups including pregnant women, infants, children, women, seniors, and individuals with compromised immune systems;

"smallest accounting unit" means 1 kilogram of a toxic substance, unless otherwise defined in the regulations to be a smaller amount;

"sustainable development" means development that meets the needs of the present without compromising the ability of future generations to meet their own needs;

"threshold quantity" means the amount of a toxic substance established by regulation that is manufactured, processed, or otherwise used each year at an industrial facility at or above which the person responsible shall be required to comply with the requirements of this Act;

"toxic substance" any chemical substance in a gaseous, liquid, or solid state that is identified on the toxic substance list established pursuant to section 8 of this Act, but does not include any substance when it is

(a) used as a structural component of a facility;
(b) present in a product used for routine janitorial or facility grounds maintenance;
(c) present in foods, drugs, cosmetics, or other personal items used by employees or other persons at a facility;
(d) present in a product used for the purpose of maintaining motor vehicles operated by a facility;
(e) present in process water or non-contact cooling water as drawn from the environment or municipal sources, or present in air used either as compressed air or part of combustion;

(f) present in a pesticide or herbicide when used in non-cosmetic agricultural operations;
(g) present in crude, lubricating, or fuel oils or other petroleum materials being held for direct wholesale or retail sale; or
(h) present in crude or fuel oils used in combustion to produce electricity, steam or heat except when production of electricity, steam or heat is the primary business of a facility;

"toxics use reduction" (1) means in-plant changes in the production process of raw materials that reduce, avoid, or eliminate the use of toxic substances or the generation of toxic substance byproducts per unit of product, so as to reduce risks to the health of the public, workers, consumers, or the environment, without shifting risks between the public, workers, consumers, or parts of the environment, (2) shall be achieved through input substitution, product reformulation, production process redesign or modification, production process modernization, improved operation and maintenance of production process equipment and methods, or recycling, reuse, or extended use of toxic substances by using equipment or methods that become an integral part of the production process of concern, (3) but does not include incineration, transfer from one medium of release to other media, off-site or out-of-production process waste recycling, or methods of end-of-pipe treatment of toxic substances as waste;

"toxics use reduction plan" means the plan required to be prepared by an industrial facility under section 10;

"toxics use reduction plan summary" means a summary of a toxics use reduction plan required to be prepared by the person responsible for an industrial facility and submitted to the Ministry under section 10;

"trade secret" means information that is exempted from disclosure as a trade secret pursuant to any law of Canada or Ontario;

"Tribunal" means the Environmental Review Tribunal;

"waste" includes ashes, garbage, refuse, domestic waste, industrial waste, or municipal waste and such other materials as are designated in Regulation 347 of the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended;

"water" means surface water and groundwater, or either of them.

Part II – Administration

3. Powers and Duties of the Minister

3. (1) In the Administration of this Act, the Minister shall,

(a) identify all ministry requirements for reporting on toxic substance use, release, and disposal and, to the maximum extent possible, shall standardize, consolidate, and coordinate these reporting requirements to minimize unnecessary duplication;

(b) ensure that, to the maximum extent practicable, any industrial facility that is a regulated person found to be violating any Act, regulation, or instrument for which the ministry has statutory responsibility, shall practice toxics use reduction and, where appropriate, adopt safer alternatives in order to come into compliance with the violated statute, regulation, or instrument;

(c) compile, analyze, and summarize the reports and plan summaries required by section 9 and subsection (6) of section 10 of this Act and submit to the Assembly an annual report on the Minister's findings regarding progress achieved, and progress expected, with respect to toxics use reduction in the province;

(d) investigate concerns and recommend standards relating to toxics use reduction and safer alternatives in the province;

(e) conduct research programs and prepare statistics relating to toxics use reduction and safer alternatives;

(f) convene and conduct conferences, seminars and educational programs relating to toxics use reduction and safer alternatives;

(g) develop, implement, and facilitate training courses and programs relating to toxics use reduction and safer alternatives;

(h) collect, test, publish and otherwise disseminate information on toxics use reduction and safer alternatives;

(i) provide technical assistance to persons responsible for industrial facilities required to comply with this Act;

(j) engage in joint discussions and initiatives with other levels of government to facilitate toxics use reduction and the adoption of safer alternatives in the province;

(k) make grants and loans in such amounts and on such terms as the Minister considers advisable to support research and training relating to toxics use reduction and safer alternatives; and

(l) perform such other functions or carry out such other duties as may be assigned from time to time by the Lieutenant Governor in Council relating to toxics use reduction and safer alternatives.

Delegation

(2) The Minister may in writing delegate any of his or her powers or duties under this Act to an employee of the ministry specified in the delegation, other than the power to make regulations.

Agreements

(3) The Minister may enter into agreements with such persons, entities, including the Institute established under section 6, as well as governments, as the Minister considers appropriate for the purposes of this Act.

Precautionary Principle

(4) The Minister shall use the precautionary principle and the principles of sustainable development in carrying out its duties and responsibilities under subsections (1) to (3).

4. Duties of the Government of Ontario

4. (1) In order to facilitate coordination of the implementation of this Act with existing provincial programs pertaining to toxic substance production and use, hazardous waste, industrial hygiene, worker safety, public exposure to toxic substances, or release of toxic substances to the environment, provincial ministries which administer such programs shall:

(a) review their programs and associated regulations and ascertain how toxics use reduction and safer alternatives can be promoted and achieved;

(b) amend those programs or associated regulations, where feasible, so as to promote toxics use reduction and the adoption of safer alternatives as the preferred methods for achieving the goals of such programs and the purposes of this Act and submit to the Lieutenant Governor in Council recommendations for coordinating toxics use reduction and safer alternatives

efforts with the programs established by this Act within the ministry and the Institute established under section 6;

(c) not more than two years after the coming into force of this Act, coordinate, to the maximum extent feasible, reporting requirements and guidelines concerning the manufacture, use, processing, or release of toxic substances in a manner that will provide for up-to-date and consistent information regarding manufacturing, worker exposure, distribution, process, sale, storage, release, or other use of toxic substances on a facility, regional, and province-wide basis;

(d) develop, on a biennial basis, a multi-media inspection manual and training program for all inspectors on multi-media inspections related to toxic substances. Where feasible, inspector training shall include cross-training with other ministries that administer inspections regarding toxic substances. Ministries may request that the Institute, established under section 6, assist with the training of inspectors to carry out multi-media inspections.

Precautionary Principle

(2) The Government shall use the precautionary principle and the principles of sustainable development in carrying out its duties and responsibilities under subsection (1).

5. Advisory Council on Toxics Use Reduction and Safer Alternatives

5. (1) The Minister shall establish an advisory body known as the Advisory Council on Toxics Use Reduction and Safer Alternatives.

Appointment of members

(2) The members of the Advisory Council shall be appointed by the Minister and shall consist of fifteen individuals as follows:

(a) three individuals with experience or training in the field of environmental compliance, one each from a large, a mid-sized, and a small industrial facility;

(b) two individuals representing provincial non-governmental environmental organizations;

(c) two individuals representing organized labour that have training or experience in the field of occupational diseases and health;

(d) two individuals with academic training in the field of environmental economics, and industrial processes, respectively;

(e) two individuals with experience in municipal government;

(f) two individuals from provincial non-governmental health organizations; and

(g) two individuals from the general public, one of whom must be nominated from a local non-governmental environmental organization that has dealt with issues relating to toxic substances in the community.

Council purposes and duties

(3) The purposes of the Advisory Council are to consider issues relating to toxic substances including their manufacture, use, processing, and release and the availability of safer alternatives with respect thereto and to make recommendations to the Minister, including,

(a) reviewing any matters submitted to it by the Minister concerning any aspect of the provisions or implementation of this Act;

(b) conducting an on-going review of the implementation of this Act and any administrative or legislative amendments it deems necessary;

(c) investigating techniques to develop standardized classifications of production processes employed by industrial facilities, including the feasibility of using such techniques in the development and implementation of toxics use reduction and substitution implementation plans;

(d) advising on the interpretation and content of information submitted in toxics use reduction summaries and progress reports;

(e) reviewing the scientific literature concerning occupational, public health, and environmental risks posed by exposures to specific toxic substances, evaluating scientific interpretation of these risks, and assessing the risks of the release of these substances into different environmental media;

(f) reviewing and evaluating the impact of reductions in the use and release of specific toxic substances on employment levels;

(g) conducting periodic reviews of the criteria adopted by the Ministry for the preparation of toxics use reduction plans, summaries, and progress reports; and

(h) studying and evaluating the practicability and feasibility of achieving reductions in the manufacture, use, processing, and release of specific toxic substances through the use of safer alternatives without causing reductions in employment levels.

Advisory committees

(4) The Minister may, at the request of the Council, establish one or more technical advisory committees to assist the Council in the performance of its duties under subsection (3).

Precautionary Principle

(5) The Council, under subsection (3), and any technical advisory committees established under subsection (4), shall use the precautionary principle and the principles of sustainable development in providing their recommendations and advice.

6. Institute on Toxics Use Reduction and Safer Alternatives

6. (1) The Minister shall establish a body known as the Ontario Toxics Use Reduction and Safer Alternatives Institute, which may be affiliated as part of one or more universities or colleges in the province.

Purposes of Institute

(2) The purposes of the Institute shall include:

(a) providing general information about, and publicizing advantages of and developments in, toxics use reduction and safer alternatives;

(b) establishing courses, seminars, conferences, and other events, reports, updates, guides, publications, and other means of providing technical information for industrial facilities, and may as appropriate work in cooperation with the Ministry, the Council, other ministries, and other levels of government regarding promotion of toxics use reduction and safer alternatives;

(c) developing and providing curriculum and training for higher education students and faculty on toxics use reduction and safer alternatives;

(d) engaging in research, development, and demonstration of toxics use reduction and safer alternatives methods including, but not limited to, assessments of the impact of adopting such methods on the environment, public and workplace health, the economy and employment within affected industrial facilities;

(e) developing by a date to be determined by regulation and in conjunction with the Ministry, and any other ministries identified by regulation, a toxics use reduction and safer alternatives planning program for individuals who wish to be certified as toxics use reduction and safer alternatives planners by the Institute, such program to include training toxics use reduction and safer alternatives planners to be qualified to:

(i) assist industrial facilities in the development and implementation of current toxics use reduction and safer alternatives techniques; and

(ii) prepare, review, and approve toxics use reduction plans and substitution implementation plans required under sections 10 and 14, respectively, of this Act;

(f) sponsoring research or pilot projects to develop and demonstrate innovative technologies for toxics use reduction and safer alternatives;

(g) assisting in the training of inspectors and others, if so requested by the Ministry;

(h) providing toxics use reduction training and assistance to individuals, community groups, workers, and municipal government representatives so as to allow them to understand and review reporting requirements, toxics use reduction and safer alternative plan summaries, and other information available to the public under this Act;

(i) conducting studies on potential restrictions on the use of toxic substances in the province including, but not limited to:

(i) existing provincial, national, and international experiences with restrictions;

(ii) social, environmental, and economic costs and benefits of adopting restrictions;

(iii) specific toxic substances that should be considered for restrictions in the province and how such restrictions could be implemented.

Precautionary Principle

(3) The Institute shall use the precautionary principle and the principles of sustainable development in carrying out its duties and responsibilities under this Act.

Part III – Toxics Use Reduction

7. Provincial Reduction Targets

7. (1) It shall be the goal of the province to achieve through the use of toxics use reduction and safer alternatives methods, the following reduction targets:

(a) within five years after the coming into force of this Act, a 50 percent reduction in the release of toxic substances in the province from quantities released in the year the Act came into force;

(b) within five years after the coming into force of this Act, a 20 percent reduction in the use of toxic substances in the province from quantities used in the year the Act came into force; and

(c) within ten years after the coming into force of this Act, a 40 percent reduction in the use of toxic substances in the province from quantities used in the year the Act came into force.

Report

(2) Three years after the coming into force of this Act, and each year thereafter, the Minister shall compile the goals of all toxic use reduction plans submitted by industrial facilities under section 10 and submit to the Legislative Assembly within six months of the compilation, a report that compares such goals to the province-wide goals established pursuant to subsection (1).

8. Reportable Toxic Substances

8. (1) A substance contained in any of the following lists shall be deemed to be a reportable toxic substance and shall be listed by the Minister in a schedule to, and be subject to the requirements of, this Act:

(a) any substance identified in the National Pollutant Release Inventory issued from time to time under the authority of the *Canadian Environmental Protection Act, 1999,* S.C. 1999, c. 33;

(b) any substance identified as a high hazard substance pursuant to the Chemicals Management Plan under the authority of the *Canadian Environmental Protection Act, 1999,* S.C. 1999, c. 33;

(c) any substance capable of causing cancer to humans, or probably capable of causing cancer to humans, and identified as such in monographs issued from time to time by the International Agency for Research on Cancer;

(d) any substance capable of causing cancer or reproductive toxicity and identified as such from time to time by the California Environmental Protection Agency under the authority of the State of California *Safe Drinking Water and Toxic Enforcement Act of 1986*; and

(e) any substance known to be capable of causing cancer in humans and identified as such in the *Report on Carcinogens* issued from time to time by the National Toxicology Program, United States Department of Health and Human Services.

Addition of substances to schedule on recommendation of council

(2) In addition to the substances identified in any of the lists in subsection (1)(a)-(e), the Minister may add to the schedule established under subsection (1) any other substance recommended for inclusion therein by the Council pursuant to recommendations made under section 5 of this Act.

Addition of medium hazard substances to schedule

(3) Five years after the coming into force of this Act, the Minister shall add to the schedule of reportable toxic substances identified in subsection (1), any substance identified as a medium hazard substance pursuant to the Chemicals Management Plan under the authority of the *Canadian Environmental Protection Act, 1999,* S.C. 1999, c. 33.

Addition of low hazard substances to schedule

(3) Eight years after the coming into force of this Act, the Minister shall add to the schedule of reportable toxic substances identified in subsection (1), any substance identified as a low hazard substance pursuant to the Chemicals Management Plan under the authority of the *Canadian Environmental Protection Act, 1999,* S.C. 1999, c. 33.

Precautionary Principle

(4) The Council and the Minister shall have regard to the precautionary principle and the principles of sustainable development when exercising the duties and responsibilities set out in subsection (2).

9. Industrial Facility Annual Report on Toxic Substances

9. (1) Subject to subsection (2), each industrial facility shall file with the Minister by April 1 of each year for the previous calendar year an annual report for each toxic substance manufactured, processed, or otherwise used at that facility in amounts equal to or exceeding the applicable threshold quantity for that substance.

Exceptions

(2) Notwithstanding subsection (1), an industrial facility is exempt from the annual reporting requirement if the industrial facility:

(a) manufactured, processed, or otherwise used in a calendar year less than the threshold quantity for a toxic substance as set out in regulations promulgated under this Act; or

(b) has fewer than the equivalent of five full-time employees unless the industrial facility is a:

a. non-hazardous solid waste incinerator, including a conical or beehive burner;
b. biomedical or hospital waste incinerator;
c. hazardous waste incinerator;
d. sewage sludge incinerator;
e. wood preserver using heat, pressure treatment, or both;
f. terminal operation;
g. wastewater collection system discharging the equivalent of or greater than 10,000 cubic meters per day into surface waters;
h. pit or quarry where annual production is equivalent to or greater than 100,000 tonnes; or

(c) falls into any one of the following categories of activities:

a. education or training institution, including a university, college, or school;
b. research or testing institution;
c. maintenance and repair of vehicles, including automobiles, trucks, locomotives, ships, or aircraft, except the painting and

stripping of vehicles or their components, or the rebuilding or remanufacturing of vehicle components;

d. distribution, storage, or retail sale of fuels, except as part of terminal operations;
e. wholesale or retail sale of articles or products that contain the substance, if the substance is not released to the environment during use at the facility;
f. retail sale of the substance;
g. growing, harvesting, or management of renewable natural resources, including fisheries, forestry, or agriculture, except processing or otherwise using renewable natural resources;
h. practice of dentistry; and

(d) maintains on-site documentation supporting all exemption claims.

Report content

(3) Each annual report required to be provided to the Minister by an industrial facility shall include:

(a) the name and location of the industrial facility;

(b) the reporting base year;

(c) information required to be submitted pursuant to the National Pollutant Release Inventory under the *Canadian Environmental Protection Act, 1999*, S.C. 1999, c.33 except that the threshold quantity for a reportable toxic substance shall be that required under regulations promulgated under this Act, and the employee threshold shall be that set out in subsection (2) of this Act;

(d) quantities of the toxic substance at the industrial facility that are:

a. manufactured,
b. processed,
c. otherwise used,
d. generated as byproduct prior to any handling, transfer, treatment, or release; and
e. shipped as or in product from the industrial facility;

(e) a materials balance for each toxic substance designated by chemical name and CAS number;

(f) a declaration signed by the highest ranking representative with direct operating responsibility at the industrial facility and with authority to bind the owner certifying that:

a. the facility has filed the report,
b. the report is true, accurate, and complete to the best of his or her knowledge, and
c. the documentation necessary to substantiate the information submitted including, but not limited to, documentation of the quantity of the toxic substance used in each production process, and the quantity generated as byproduct by each production process is maintained at the facility;

(g) such further and other information as specified by regulation, including information to be provided for each production process at an industrial facility.

Effect of failure to file annual report on regulated persons

(4) The person responsible for an industrial facility who is also a regulated person is not eligible to obtain a new or amended certificate, approval, licence, or permit under the applicable laws of Ontario if not in compliance with the requirements of this section at the time of application.

10. Toxics Use Reduction Plan

10. (1) By April 1 of the year following the year in which this section is proclaimed in force, which proclamation shall be no later than two years after the Act has received Royal Assent, an owner whose industrial facility is subject to the requirements of this Act shall prepare and complete a toxics use reduction plan for those toxic substances manufactured, processed, or otherwise used by the industrial facility in the previous calendar year.

Plan content

(2) The content of a toxics use reduction plan shall include:

(a) a statement of facility-wide management policy regarding toxics use reduction;

(b) a statement of the scope and objectives of the plan, including the planned reductions in facility-wide use and byproduct generation from the reporting base year for each toxic substance during the next two years and during the next five years;

(c) for each production process in which a toxic substance is manufactured, processed, or otherwise used:

(i) a description of each production process;

(ii) a comprehensive economic and technical evaluation of appropriate technologies, equipment, procedures, and training programs for potentially achieving toxics use reduction for each toxic substance;

(iii) a feasibility analysis of reduction options identified in subsection (ii), which shall include, but not be limited to, a full-cost accounting of the options, and any technological obstacles to adopting the options;

(iv) an analysis of current and projected toxics use, byproduct generation, and releases;

(v) an evaluation of the types and amounts of toxic substances used;

(vi) an identification of the economic impacts of the use of each toxic substance in the production process including, but not limited to, raw material and byproduct storage and handling costs, potential liability costs, and costs associated with regulation;

(vii) an identification of each technology, equipment, procedure, or training program to be implemented for the purposes of achieving toxics use reduction, the anticipated costs of implementation of each, and the anticipated savings expected due to each;

(viii) a schedule for implementation of such technologies, equipment, procedures, and training programs;

(ix) a two-year and a five-year numeric goal for planned reductions for each toxic substance per unit of product;

(x) a description of the valuation methods used to determine not to install or use an option that would have resulted in a greater percentage reduction in the use of a toxic substance than the option chosen;

(d) a declaration signed by the highest ranking representative with direct operating responsibility at the industrial facility and with authority to bind the owner certifying that:

(i) he or she has read and is familiar with the toxics use reduction plan;

(ii) the plan is true, accurate, and complete to the best of his or her knowledge; and

(iii) it is the corporate policy of that industrial facility to achieve the goals of the plan;

(e) a certification by a toxics use reduction and safer alternatives planner that the plan meets the requirements of this Act for an acceptable plan.

Retention of plan at industrial facility

(3) The owner of, or the highest ranking representative with direct operating responsibility at, an industrial facility shall ensure that the toxics use reduction plan for the facility is kept on the premises of that facility, and shall make the plan available on the premises for inspection by the Ministry on request.

Plan update

(4) The owner of, or the highest ranking representative with direct operating responsibility at, an industrial facility and with authority to bind the owner shall update the toxics use reduction plan for the facility and issue a new declaration with respect thereto every two years by April 1 of the applicable year.

Notice and solicitation of comments from employees for initial plan and updates

(5) Six months prior to the date when an initial toxics use reduction plan or an update must be completed, each owner of, or the highest ranking representative with direct operating responsibility at, an industrial facility shall:

(a) notify all employees at the facility of the requirements for the plan or update;

(b) identify the toxic substances and production processes for which a plan or update will be submitted;

(c) provide the criteria for plans specified by the Ministry; and

(d) solicit in the notice, comments or suggestions from all employees on toxics use reduction options.

Plan summary

(6) The owner of, or the highest ranking representative with direct operating responsibility at, an industrial facility and with authority to bind the owner shall file a summary of its toxics use reduction plan or an update with the Ministry on or before April 1 of the applicable year consisting of:

(a) a copy of the declaration required pursuant to subsection (2)(d) of section 10;

(b) a copy of the plan certification by a toxics use reduction and safer alternatives planner required pursuant to subsection (2)(e) of section 10;

(c) the goals contained in the plan as specified pursuant to subsection (2)(b) of section 10 and subsection (2)(c)(ix) of section 10; and

(d) such further or other information from the plan as specified by regulation.

Effect of failure to have plan on regulated persons

(7) The person responsible for an industrial facility who is also a regulated person is not eligible to obtain a new or amended certificate, approval, licence, or permit under the applicable laws of Ontario if not in compliance with the requirements of this section at the time of application.

Precautionary Principle

(8) When carrying out the duties and responsibilities set out in subsections (1) and (4), the owner of a facility shall have regard to the precautionary principle and the principles of sustainable development.

Part IV – Safer Alternatives to Toxic Substances

11. Identification of Potential Priority Toxic Substances

11. (1) Not more than one year following the coming into force of this Act, and at two year intervals thereafter, the Minister, in consultation with the Institute, the Council, and any advisory committee established by the Council, shall identify and publish a list pursuant to subsections (4) and (5) of not more than ten potential priority toxic substances of concern commonly used in Ontario industry or used in products sold in Ontario that are contained in the schedule established under section 8.

Same

(2) The first list to be so published shall be known as List 1, with the second and subsequent lists to be numbered sequentially thereafter, with each such subsequent list to contain, subject to subsection (6) not more than ten such substances at a time.

Criteria for identification

(3) The criteria for identification of potential priority toxic substances under subsection (1) shall include, but not be limited to, whether the substances are recognized as:

(a) carcinogens, mutagens, or reproductive toxins;

(b) persistent or bioaccumulative;

(c) endocrine disruptors; or

(d) possessing other characteristics of equivalent concern including but not limited to,

(i) inherent toxicity;

(ii) magnitude of use in Ontario industry or in products sold in Ontario;

(iii) magnitude of exposure to sensitive populations; or

(iv) such other characteristics as set out by regulation.

Consultation on potential priority toxic substances

(4) The Minister shall ensure that notice of the first and subsequent lists referred to in subsection (1) is published on the registry and shall seek comment from the public regarding prioritization of assessment of substances on, that should be added to, or that should be deleted from, the lists.

Final version of list to be published on registry

(5) Following the consultation referred to in subsection (4), the Minister shall publish on the registry the final version of the first and subsequent lists containing the order in which priority toxic substances on the lists shall be the subject of safer alternative assessment reports under section 12.

Ministerial authority to add to list

(6) Notwithstanding subsection (1), the Minister may at any time add a substance to the first or subsequent lists if it meets one or more of the criteria set out in subsection (2), in which case subsections (4) and (5) shall apply and each such list may contain more than ten priority toxic substances at any one time.

Precautionary Principle

(7) When exercising the duties and responsibilities set out in this section, the Minister, the Institute, the Council, and any advisory committee established by the Council shall have regard to the precautionary principle and the principles of sustainable development.

12. Safer Alternatives Assessment Reports

12. (1) Within 180 days after the publication of a list referred to in subsection (5) of section 11, and annually thereafter, the Minister shall select priority toxic substances from the list in the order in which they appear on the list and direct the Institute subject to subsection (3) to conduct and publish a safer alternatives assessment report that evaluates the availability of safer alternatives to these substances.

Content of report

(2) The content of a safer alternatives assessment report shall include:

(a) the uses and functions of the priority toxic substance;

(b) the uses that result in the greatest volume or dispersion of, or highest exposure to, the priority toxic substance in the indoor, workplace, and natural environment;

(c) consideration of the potential impacts to human health and the environment of the continued use of a priority toxic substance;

(d) whether any of the existing uses of the priority toxic substance are trivial, or clearly unnecessary;

(e) the public policy implications of a reduction in the use of the priority toxic substance where its current use is non-trivial or clearly necessary;

(f) whether alternatives are available for the uses and functions of the priority toxic substance;

(g) whether the alternatives identified in subsection (f) are unacceptable, require further study, or are safer than the priority toxic substance;

(h) a qualitative discussion of the economic feasibility, opportunities, or costs associated with adopting and implementing any safer alternatives to the priority toxic substance including a qualitative characterization of,

(i) the economic impacts of adopting and implementing a safer alternative on the Ontario economy,

(ii) any impacts on the workforce or quality of work life,

(iii) potential costs or benefits to existing business,

(iv) potential impact on the cost of providing health care if the product is a medical product, and

(v) the extent of human exposure to the priority toxic substance that could be eliminated and health care costs saved by adopting and implementing a safer alternative;

(i) recommendations on a course of action that should be employed with respect to the priority toxic substance including, but not limited to, whether all uses of the substance should be prohibited; and

(j) such further or other matters as set out by regulation.

Consultation on report

(3) The Minister shall ensure that notice of a draft of a safer alternative assessment report referred to in subsection (1) is published on the registry and shall seek comment from the public on the contents of the draft report before the report is finalized by the Institute.

Final version of report to be published on registry

(4) Following the consultation referred to in subsection (3), the Minister shall publish on the registry the final version of a safer assessment report prepared by the Institute.

Timing for completion of reports

(5) Not more than three years after the publication of a list pursuant to section 11 shall elapse before all priority toxic substances on a list shall have an assessment report drafted and finalized by the Institute.

Precautionary Principle

(6) When exercising the duties and responsibilities set out under subsection (1), the Institute shall have regard to the precautionary principle and the principles of sustainable development.

13. Provincial Priority Toxic Substance Alternatives Action Plans

13. (1) Not more than one year after the publication by the Institute of a safer alternative assessment report for a priority toxic substance pursuant to section 12, the Minister shall utilize the report to establish a provincial alternatives action plan for that substance.

Goal of plans

(2) The goal of a provincial priority toxic substance alternatives action plan shall be to coordinate the activities of the government of Ontario and to require users of priority toxic substances to

(a) act as expeditiously as possible to ensure substitution of a priority toxic substance with a safer alternative while

(i) minimizing job loss; and

(ii) mitigating any other potential unintended negative impacts; and

(b) achieve such other goals as may be specified by regulation.

Content of plans

(3) Each provincial priority toxic substance alternatives action plan shall contain:

(a) timetables, schedules, and deadlines for achieving substitution of a priority toxic substance with safer alternatives for specified uses;

(b) requirements for all industrial facilities that manufacture, process, or otherwise use a priority toxic substance to create substitution implementation plans that demonstrate how such facilities will substitute all specified uses of the substance with a safer alternative, including with respect to consumer products containing the priority toxic substance;

(c) where the safer alternatives assessment report indicated that safer alternatives are feasible and of comparable cost, and that all uses of

the substance should be prohibited, a requirement that the Minister promulgate regulations requiring the substitution of a priority toxic substance with a safer alternative;

(d) where the Minister determines that implementation of the provincial priority toxic substance alternatives action plan for the substitution of a substance, or specified uses of a substance, will take longer than five years, a requirement for plain language labelling of products containing the substance identifying that the substance is present in the product, and the impact of the substance on human health and the environment;

(e) where the safer alternatives assessment report finds that safer alternatives are feasible, but require extensive capital expenditure or training, the Minister shall implement a technical assistance programs for businesses and employees pursuant to sections 18 and 19 of this Act;

(f) where the safer alternatives assessment report finds that safer alternatives are not feasible, the provincial priority toxic substance alternatives action plan shall designate research and development activities to be undertaken by the Institute with a view to examining the future feasibility of finding safer alternatives for the substance; and

(g) such other measures as established by regulation.

Consultation on plan

(4) The Minister shall ensure that notice of a draft of a provincial priority toxic substance alternatives action plan referred to in subsection (1) is published on the registry and shall seek comment from the public on the contents of the draft plan before the plan is finalized.

Final version of plan to be published on registry

(5) Following the consultation referred to in subsection (4), the Minister shall publish on the registry the final version of a provincial priority toxic substance alternatives action plan for a substance.

Action by other ministries

(6) Following the publication on the registry of the plan referred to in subsection (5), all other ministries shall take any required implementing actions as set out in the plan and this Act.

Precautionary Principle

(7) When exercising the duties and responsibilities set out under this section, the Minister shall have regard to the precautionary principle and the principles of sustainable development.

14. Industrial Facility Substitution Implementation Plan

14. (1) Where a final version of a provincial alternatives action plan has been published on the registry pursuant to subsection 13(5), any industrial facility that manufactures, processes, or otherwise uses the priority toxic substance identified therein shall, within one year of registry publication, develop and complete a substitution implementation plan.

Content of plan

(2) The content of a substitution implementation plan shall include:

(a) identification of all uses of a priority toxic substance by the industrial facility;

(b) identification of all alternatives considered, including cost and feasibility considerations;

(c) selection of preferred alternatives that will achieve the objectives, timetables, schedules, deadlines, and any prohibitions set out in the applicable provincial alternatives action plan for the priority toxic substance, including with respect to consumer products containing the priority toxic substance;

(d) a declaration signed by the highest ranking representative with direct operating responsibility at the industrial facility and with authority to bind the owner certifying that:

(i) he or she has read and is familiar with the substitution implementation plan;

(ii) the plan is true, accurate, and complete to the best of his or her knowledge; and

(iii) it is the corporate policy of that industrial facility to achieve the objectives, timetables, schedules, and deadlines of the plan;

(e) a certification by a toxics use reduction and safer alternatives planner that the plan meets the requirements of this Act, is complete and reasonable in every respect, and is capable of meeting the objectives, timetables, schedules, and deadlines of the applicable provincial alternatives action plan for the priority toxic substance, including with respect to consumer products containing the priority toxic substance, where applicable; and

(f) such other content as established by regulation.

Variance application

(3) Notwithstanding subsection (1), an industrial facility may file an application for a variance of the deadline set out in subsection (1), certifying that there is no safer alternative that is technically or economically feasible for the facility's particular use of the substance.

Content of variance application

(4) The content of the variance application referred to in subsection (3) shall include:

(a) identification of all uses by the industrial facility of the priority toxic substance;

(b) identification of all alternatives considered and their cost and feasibility considerations;

(c) the basis for the certification that there is no feasible safer alternative;

(d) documentation of efforts to be taken by the industrial facility to minimize the use of the priority toxic substance and human and environmental exposures to the substance until safer alternatives are found and implemented;

(e) steps the industrial facility will take to identify safer alternatives in the one year period subsequent to the date of the variance application;

(f) such other content as established by regulation.

Consideration by Minister of variance application

(5) The Minister, following review of the variance application referred to in subsections (3) and (4), shall accept or reject such application within 60 days of receipt of the application after applying the criteria set out in subsection (6).

Criteria

(6) The criteria to be considered by the Minister before granting a variance application shall include whether:

(a) there is a need for the use of the substance;

(b) there is no safer alternative;

(c) use of the product would cause human exposure or environmental contamination; and

(d) such other criteria as established by regulation.

Duration of variance

(7) A variance granted under this section shall expire one year after its issuance, unless a new application for variance has been granted by the Minister before the expiry date.

Employee consultation

(8) An industrial facility evaluating the substitution of safer alternatives shall consult with facility employees prior to filing the plan referred to in subsection (1) or a variance referred to in subsection (3). Such consultation shall include:

(a) a minimum thirty day period for the provision of comments;

(b) maintenance of documentation of employee input and how it was utilized;

(c) opportunity for anonymous employee comments;

(d) analysis of the impact substitution may have on all aspects of the quality of working conditions and work life;

(e) such other matters as established by regulation.

Substitution implementation plan part of toxics use reduction plan

(9) An industrial facility required to prepare a substitution implementation plan shall include the plan in its toxics use reduction plan.

Precautionary Principle

(10) The duties and responsibilities set out in subsection (1) shall be exercised in accordance with the precautionary principle and the principles of sustainable development.

Part V – Toxics Use Reduction and Safer Alternatives Planning

15. Toxics Use Reduction and Safer Alternatives Planners

15. (1) Where an individual wishes to be certified as a toxics use reduction and safer alternatives planner under this Act, the individual shall:

(a) satisfactorily complete a toxics use reduction and safer alternatives planning program developed by the Institute pursuant to the requirements of this Act and the regulations;

(b) pass a uniform certification examination which the Ministry in consultation with the Institute shall develop by the date established by regulation; or

(c) have at least two years of work experience in toxic use reduction and safer alternatives planning activities as approved by the Minister following consultation with the Institute; and

(d) meet such further requirements as established by regulation.

Restriction where certification based only on work experience

(2) Where an individual satisfies the requirement of at least two years of work experience as set out in subsection (1)(c), but has not satisfactorily completed a toxic use reduction and safer alternatives planning program and passed the uniform certification examination as set out in subsection (1)(a) and (b), the individual shall only be certified to engage in toxics use reduction and safer alternatives planning activities in industrial facilities owned or operated by his or her employer.

Duration of certification

(3) The duration of the certification authorized under subsection (1) shall not exceed a period greater than two years after its issuance unless renewed before its expiry pursuant to subsection (4).

Renewal of certification

(4) An individual may renew a certification issued pursuant to subsection (1) for an additional two years and thereafter under this subsection at two year intervals before its expiry if he or she successfully completes a course of continuing education instruction in toxics use reduction and safer alternatives planning activities offered by the Institute.

Fees for certification or renewal

(5) The Minister shall establish by regulation a fee to be assessed any individual when such individual obtains his or her certificate as a toxics use reduction and safer alternatives planner for the first time under subsection (1) or upon renewal pursuant to subsection (4). Such fees shall be deposited in the Toxics Use Reduction and Safer Alternatives Fund established under this Act.

Suspension or revocation of certification

(6) The Minister may suspend or revoke the certification of an individual upon:

(a) a finding of fraud, gross negligence in the certification of toxics use reduction or substitution implementation plans, or for other good cause; or

(b) a failure by the individual to re-apply for certification by the expiry date applicable to the individual's existing certification; or

(c) a failure by the individual to pay the requisite fee established pursuant to subsection (5).

Reinstatement of certification

(7) The Minister may re-instate an individual's certification that has been suspended or revoked under subsection (5)(b) or (c) upon the filing by the individual of an application and the payment of the appropriate fee.

Part VI – Financial and Technical Assistance Measures

16. Toxics Use Reduction and Safer Alternatives Fund

16. (1) Upon the coming into force of this Act, the Minister shall,

(a) establish a fund to be known as the Toxics Use Reduction and Safer Alternatives Fund; and

(b) appoint an administrator who shall be responsible to the Minister for meeting the purpose of the Fund.

Fund purpose

(2) The purpose of the Fund is to provide monies, which shall be dedicated and used solely, to enable the Minister, the Ministry, the Council, the Institute, and other ministries to meet their obligations in implementing the provisions of this Act.

Fund sources

(3) The Fund shall have credited and transferred to it on an annual basis monies from the following sources:

(a) all fees imposed on industrial facilities pursuant to section 17;

(b) all fees imposed on individuals pursuant to section 15;

(c) all penalties collected for violations of this Act;

(d) any grant, gift, or other contribution explicitly made to the Fund;

(e) any interest earned on monies in the Fund; and

(f) any other monies that may be available, or appropriated, to the Ministry from consolidated revenue for the implementation of this Act.

17. Industrial Facility Toxics Use Fee

17. (1) Upon the coming into force of this Act, the Minister shall have established by regulation a schedule of initial and annual fees to be paid by an industrial facility to the Ministry for the purposes of enabling the Minister to meet the obligations of the Ministry, the Council, and the Institute in implementing the provisions of this Act.

Criteria for establishing fee

(2) The criteria for establishing the schedule of fees referred to in subsection (1) shall include:

(a) the number of employees at an industrial facility;

(b) whether a chemical that appears on the schedule of reportable substances established by section 8, is manufactured, processed, or otherwise used at such facility;

(c) the annual quantity of each such chemical referred to in subsection (b) that is manufactured, processed, or otherwise used at such facility;

(d) the characteristics of each such chemical as set out in subsection (3) of section 11; and

(e) such other criteria as established by regulation.

Ministerial survey notice for obtaining information from industrial facility

(3) For the purposes of obtaining information from an industrial facility with respect to matters addressed in subsection (2), the Minister shall be authorized to publish a survey notice requiring regulated persons and other industrial facilities to provide information requested in the survey notice by the date specified in the notice.

Declaration

(4) The owner of, or the highest ranking representative with direct operating responsibility at, an industrial facility and with authority to bind the owner shall, at the time of filing the response to the survey notice, file a declaration certifying that:

(a) he or she has read and is familiar with the information provided in response to the survey notice; and

(b) the information provided is true, accurate, and complete to the best of his or her knowledge.

Report under Canadian Environmental Protection Act

(5) An industrial facility required to file an annual report pursuant to the National Pollutant Release Inventory under sections 46 or 71 of the *Canadian Environmental Protection Act, 1999*, S.C. 1999, c. 33 shall file a copy of such report with the Minister.

Consequences of failure to pay fee, respond to survey notice, file declaration, or provide report

(6) An industrial facility that fails to pay the fee, respond to the survey notice, file a true, accurate, and complete declaration, or provide the report required by this section is guilty of an offence.

18. Technical Assistance Programs for Businesses

18. (1) The Minister shall, in consultation with the Institute, other ministries, colleges and universities, and private consortia, facilitate business transition to toxics use

reduction and safer alternatives measures in the province by establishing a technical assistance program for businesses.

Program content

(2) The technical assistance program for businesses shall include:

(a) programs to evaluate technologies, encourage university research and industrial collaboration, attract funding, and additional support through federal and private sector grant and financial assistance;

(b) direct grants and loans to businesses for costs required to implement toxics use reduction and safer alternatives;

(c) technical support for individual companies or sectors;

(d) technical assistance in assessing toxics use reduction and safer alternatives and assistance in forming groups to assess and develop safer alternatives;

(e) research and development of safer alternatives, including demonstration projects;

(f) market development programs to create demand for safer alternatives;

(g) conferences, seminars, and workshops focused on solving problems and evaluating technology development opportunities for particular sectors;

(h) publications to assist particular sectors develop and implement toxics use reduction and safer alternatives; and

(i) such other measures as established by regulation.

19. Technical Assistance Programs for Employees

19. (1) The Minister shall, in consultation with the Minister of Labour, the Institute, and colleges and universities, cooperate in facilitating employee transition to toxics use reduction and safer alternatives measures in the province by establishing a technical assistance program for employees.

Program content

(2) The Ministers shall jointly develop a plan to ensure just and fair transition to re-employment assistance, vocational re-training, or other support or arrangements such

that any employee displaced in the province as a result of the implementation of toxics use reduction or safer alternatives measures will be:

(a) eligible for an available job with at least equivalent wages, benefits, and working conditions;

(b) eligible for vocational re-training and job placement;

(c) entitled to receive re-employment assistance and health benefits; and

(d) entitled to receive any additional benefits pursuant to the provisions of a collective bargaining agreement.

Part VII – Public Participation

20. Toxics Use Reduction and Safer Alternatives Registry

20. (1) The Ministry shall establish, maintain, and operate a registry known as the Toxics Use Reduction and Safer Alternatives Registry.

Purposes

(2) The purposes of the Registry are:

(a) to facilitate public access to information listed in sections 21 and 22 of this Act and to other information that may be prescribed in accordance with this Act or the regulations; and

(b) such other purposes as are prescribed by the regulations.

21. Public Access to Provincial Plans, Notices, Annual Reports, and Information on Registry

21. (1) The following information shall be posted on the Registry established under section 20 and shall be accessible to the public:

(a) agreements entered into pursuant to subsection (3) of section 3;

(b) reports and recommendations of the Advisory Council and any of its committees pursuant to subsections (3) and (4) of section 5;

(c) information generated by the Institute pursuant to subsection (2) of section 6;

(d) the report comparing the compiled goals of toxics use reduction plans and province-wide targets authorized pursuant to subsection (2) of section 7;

(e) the schedule of reportable toxic substances established pursuant to subsection (1) of section 8;

(f) each industrial facility annual report on toxic substances pursuant to section 9;

(g) each toxics use reduction plan summary produced pursuant to subsection (6) of section 10;

(h) each draft list of potential, and final list of, priority toxic substances pursuant to section 11;

(i) each draft and final version of the safer alternatives assessments reports, and notices issued with respect thereto, prepared pursuant to section 12;

(j) each draft and final version of the provincial alternatives action plans, and notices issued with respect thereto, prepared pursuant to section 13;

(k) survey notices issued to industrial facilities pursuant to subsection (3) of section 17; and

(l) such other information generated pursuant to this Act as required by regulation.

Other information generated under Act

(2) In addition to subsection (1), all information submitted to the Minister pursuant to this Act shall, except as set out in section 56, be available for disclosure to the public in accordance with the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31.

Information access additional to any other requirements of law

(3) The public right to access the information set out in subsections (1) and (2) and section 22 is in addition to any other right to such information that exists as a requirement of the laws of Ontario.

22. Right to Know Other Information

22. (1) The public shall be entitled as of right to access the information set out in subsection (2) by the means identified in subsections (3), (4), (5), (6), and (7) of this section.

Pollutant inventory

(2) The Minister shall establish, maintain, and post on the Registry established under section 20, a pollutant inventory that contains at least the following information:

(a) The alphabetical index record referred to in subsection 9 of section 19 of the *Environmental Protection Act,* R.S.O. 1990, c. E.19;

(b) All records that are filed in the Environmental Site Registry established under section 168.3 of the *Environmental Protection Act,* R.S.O. 1990, c. E.19;

(c) All reports submitted under section 6 of Ontario Regulation 127/01 (Airborne Contaminant Monitoring and reporting) made under the *Environmental Protection Act,* R.S.O. 1990, c. E.19;

(d) All reports supplied to the Ministry under the following regulations made under the *Environmental Protection Act,* R.S.O. 1990, c. E.19;

i. Ontario Regulation 560/94 (Effluent Monitoring and Effluent Limits – Metal Mining Sector);

ii. Ontario Regulation 215/95 (Effluent Monitoring and Effluent Limits – Electric Power Generation Sector);

iii. Ontario Regulation 561/94 (Effluent Monitoring and Effluent Limits – Industrial Minerals Sector);

iv. Ontario Regulation 64/95 (Effluent Monitoring and Effluent Limits – Inorganic Chemical Sector);

v. Ontario Regulation 214/95 (Effluent Monitoring and Effluent Limits – Iron and Steel Manufacturing Sector);

vi. Ontario Regulation 562/94 (Effluent Monitoring and Effluent Limits – Metal Casting Sector);

vii. Ontario Regulation 63/95 (Effluent Monitoring and Effluent Limits – Organic Chemical Manufacturing Sector);

viii. Ontario Regulation 537/93 (Effluent Monitoring and Effluent Limits – Petroleum Sector);

ix. Ontario Regulation 760/93 (Effluent Monitoring and Effluent Limits – Pulp and Paper Sector);

(e) The alphabetical index record referred to in subsection (9) of section 13 of the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40;

(f) All reports required under sections 61 and 81 of the *Clean Water Act, 2006*, S.O. 2006, c. 22;

(g) All notices provided to the Ministry under section 29 of the *Pesticides Act*, R.S.O. 1990, c. P.11;

(h) The alphabetical index of orders required under subsection (8) of section 31 of the *Pesticides Act*, R.S.O. 1990, c. P.11;

(i) All adverse drinking water test results reported under section 18 of the *Safe Drinking Water Act, 2002*, S.O. 2002, c. 32;

(j) Prescribed information, including but not limited to consumer product labeling information, about the impacts of the prescribed pollutants on the environment and human health.

Publication requirements

(3) The inventory established pursuant to subsection (2) shall:

(a) be kept current; and

(b) include instructions in plain English and French on how to use the inventory.

Searchable information on inventory

(4) The information contained in the inventory shall be capable of being searched by:

(a) the name of the pollutant;

(b) the name of the person responsible for the pollutant;

(c) the geographic region, including postal code;

(d) the number of the regulation under which the information was filed;

(e) the instrument to which the information relates;

(f) the type of impact on the environment; and

(g) the type of impact on human health.

Reports

(5) The Registry shall include a function allowing the user of the inventory to create reports organized by the criteria set out in subsection (4) and by such further criteria as prescribed by regulation.

Public Access

(6) The requirement to publish and maintain the pollutant inventory applies,

(a) in addition to any other provisions set out in this Act or any other Act or regulations respecting public access to the documents listed in subsection (2); and

(b) despite any provision in any other Act or regulation that would limit the disclosure or use of any information listed in subsection (2).

Consumer product warnings

(7) No prescribed supplier shall supply to a consumer products that expose the consumer to a toxic substance listed in section 8(1)(c), (d), or (e) unless the supplier includes a warning of the exposure in the prescribed manner.

Occupational Health and Safety Act

(8) Notwithstanding section 38(1)(d) of the *Occupational Health and Safety Act*, R.S.O. 1990, c. O.1, upon the coming into force of this Act, an employer shall furnish forthwith to the fire department which serves the location in which the workplace is located, a copy of every unexpired material safety data sheet required by that Act in respect of hazardous materials in the workplace as defined under that Act.

23. Right to Apply for Review of Plans

23. (1) Any two persons resident in Ontario and living within ten kilometres of an industrial facility required to prepare a toxics use reduction plan under section 10, or a substitution implementation plan under section 14, may apply to the Minister to review,

for the purpose of determining whether the requirements of this Act and the regulations are being complied with,

(a) the facility's toxic use reduction plan, plan summary, or any updates thereof pursuant to section 10;

(b) the facility's substitution implementation plan pursuant to section 14;

(c) or both.

Environmental Commissioner

(2) The persons making the application pursuant to subsection (1) shall also forward a copy of their request to the person responsible for the industrial facility and to the Environmental Commissioner of Ontario.

Application contents

(3) An application for review under subsection (1) shall be in the form provided for this purpose by the office of the Environmental Commissioner and shall include:

(a) the names and addresses of the applicants;

(b) an explanation of why the applicants believe that the review applied for should be undertaken in light of the purposes and requirements of the Act; and

(c) a summary of the evidence in support thereof.

Ministerial report

(4) The Minister shall report his or her determination in writing within a reasonable period of time to:

(a) the persons who made the request under subsection (1);

(b) the industrial facility; and

(c) the Environmental Commissioner.

24. Right of Action

24. (1) Any person resident in Ontario may bring an action in the Superior Court of Ontario for the failure of a person responsible to file with the Minister:

(a) An annual report meeting the requirements of section 9;

(b) A toxics use reduction plan meeting the requirements of section 10;

(c) A toxics use reduction plan summary meeting the requirements of subsection (6) of section 10; or

(d) An industrial facility substitution implementation plan meeting the requirements of section 14.

Same

(2) Any person resident in Ontario may bring an action in the Superior Court of Ontario for the failure of the Minister, or any other minister, to perform any duty under the Act including, but not limited to:

(a) the production of a draft or final list of priority toxic substances meeting the requirements of section 11;

(b) the production of a draft or final safer alternative assessment report meeting the requirements of section 12;

(c) the production of a draft or final priority toxic substance alternative action plan meeting the requirements of section 13;

(d) the production of the report in response to an application for review required by section 23.

Remedies

(3) If the court finds that the person bringing the action is entitled to judgment in an action brought under subsection (1) or (2), the court may:

(a) grant declaratory relief;

(b) order the production of the list, report, plan, plan summary, or the taking of such other action as complies with the Act;

(c) make any other order, including an order as to costs, that the court considers appropriate.

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53. Protection From Personal Liability

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56. Confidential Business Information

56. (1) Where a person submitting information to the Minister under the requirements of this Act indicates that the information may be confidential business information and otherwise exempt from disclosure under the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31, and requests that the information be so treated under this Act, the person submitting the information shall identify that information upon its submission to the Minister and shall provide sufficient details in writing in support of reasons why the information should be treated as confidential and exempted from disclosure.

Reasons for requesting confidentiality

(2) A request under subsection (1) may only be based on any of the following reasons:

(a) the information concerns manufacturing or quality control processes relating to a toxic substance;

(b) the information concerns methods for determining the composition of a toxic substance;

(c) the information otherwise constitutes a trade secret;

(d) the disclosure of the information would likely cause material commercial or financial loss to, or prejudice to the competitive position of, the person providing the information or on whose behalf it is provided;

(e) the disclosure of the information would likely interfere with contractual or other negotiations being conducted by the person providing the information or on whose behalf it is provided.

Minister's decision

(3) In determining whether to accept or reject the request referred to in subsection (1), the Minister shall consider whether the reasons provided pursuant to subsection (2) are well-founded in the circumstances and, if they are, the Minister may nevertheless reject the request if,

(a) disclosure is in the interest of environmental protection, public health, or public safety; and

(b) the public interest in the disclosure outweighs in importance any material commercial or financial loss or prejudice to the competitive position of the person who provided the information or on whose behalf it was provided.

Where result of decision is acceptance of request

(4) Where the Minister accepts the request, the information shall not be made available on the Registry or otherwise be subject to disclosure.

Where result of decision is rejection of request

(5) Where the Minister rejects the request, the information shall be made available on the Registry and shall otherwise be subject to disclosure.

Procedure for determining validity of Ministerial decision

(6) The procedure for determining the validity of a decision by the Minister under this section shall be that set out in the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31 except that section 58 of this Act shall apply.

57. Annual Reports

58. Conflict

58. If there is a conflict between this Act or regulations and a provision of another Act, regulation, or municipal by-law dealing with toxics use reduction, safer alternatives, or the public right to know, the provision that is the most protective of human health or the environment, or provides for the most access to information prevails.

59. Regulations

59. The Lieutenant Governor in Council may make regulations,

(a) governing the terms of any agreements entered into pursuant to subsection 3 of section 3;

(b) governing the operation of the council and any advisory committees thereto under section 5;

(c) governing the operation of the Institute under section 6;

(d) governing the schedule of reportable toxic substances established under section 8;

(e) governing the additional content, if any, of annual reports by industrial facilities under section 9;

(f) governing the additional content, if any, of a toxics use reduction plan under subsection 2 of section 10, a plan update under subsection (4) of section 10, and a plan summary under subsection (6) of section 10;

(g) governing additional criteria, if any, for the identification of potential priority toxic substances under subsection (3) of section 11;

(h) governing the additional content, if any, of a safer alternatives assessment report under subsection (2) of section 12;

(i) authorizing additional goals, if any, of a provincial priority toxic substance alternatives action plan under subsection (2), or governing the additional content, if any, of a plan under subsection (3) of section 13;

(j) governing the additional content, if any, of a substitution implementation plan for an industrial facility under subsection (2), the additional content, if any, for a variance application under subsection (4), the additional criteria, if any, to be considered by the Minister under subsection (6), or additional employee consultation factors, if any, to be considered under subsection (8) of section 14;

(k) governing additional requirements, if any, to be met by an individual seeking certification as a toxics use reduction and safer alternatives planner under subsection (1), or the fees to be paid for certification or renewal thereof under subsection (5) of section 15;

(l) governing administrative matters, if any, respecting the Toxics Use Reduction and Safer Alternatives Fund established under section 16;

(m) governing the initial and annual fees to be paid by an industrial facility under subsection (1), or the additional criteria, if any, for establishing such fees under subsection (2) of section 17;

(n) governing the additional content, if any, of the technical assistance programs for businesses under subsection (2) of section 18;

(o) governing the additional content, if any, of the technical assistance programs for employees under subsection (2) of section 19;

(p) authorizing further purposes, if any, respecting the Registry under subsection (2) of section 20;

(q) authorizing further information, if any, that may be posted on the Registry under subsection (1) of section 21;

(r) governing any matter respecting the right to know other information under section 22;

(s) governing any matter respecting the right to apply for review of plans under section 23;

(t) governing any other matter that, in the opinion of the Lieutenant Governor in Council, is necessary or desirable to facilitate the implementation of this Act in light of its purposes.

60. Short Title

60. The short title of this Act is the *Ontario Toxics Use Reduction and Safer Alternatives Act, 2008.*

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