CHAPTER 3. AIR QUALITY AND MONITORING IN ONTARIO

I. Introduction

Ontario's air has become a health hazard. The Ontario Medical Association has estimated that the poisons released into the province's air contributed to 1,900 premature deaths in 2000[1]. Ontario must bring about considerable change in order to prevent any further deterioration in air quality and further damage to human health. This is a formidable challenge. The toxic substances released into our air come from a wide variety of sources. From the commuter who drives her car to work to the large industrial plant with a billowing smokestack, polluters are diverse and widespread.

Air pollution knows no boundaries and can travel great distances. For example, the Ministry of the Environment (MOE) estimates that almost half of the smog-causing nitrogen oxide and volatile organic compounds in Ontario's air originate from the American Midwest[2]. Therefore, there is no quick-fix solution to this complex problem. The provincial government has used a number of different strategies to address its long-term commitment to improving air quality. Despite these efforts, the levels of dangerous substances, such as nitrogen oxides, carbon monoxide and ozone, in Ontario's air actually increased from 1995 to 1998[3]. This report will analyze some of the reasons for the lack of success of government strategies[4] and make forward-looking recommendations for how these strategies could be improved.

II. Energy Sector Restructuring

The provincial government is in the process of deregulating the energy sector in the hopes that introducing competition into the former monopoly market will help to increase efficiency and increase choice, while helping to improve the environment.[5] However, since power generation is one of the major contributors to climate change and to health hazards such as smog and acid rain, proactive measures must be taken in order to prevent these market changes from compromising Ontario's health and environment.

A. Emissions caps

An essential measure to help protect the health of Ontarians is to set limits on the amount of pollution that is released into the air that they breathe. On March 26, 2001, the government announced that Ontario power generation facilities, primarily owned by Ontario Power Generation (OPG), will face limits on their allowable air pollution emissions from 2002-2007.

There are five major areas of concern with this proposal:

1. The regulation exclude greenhouse gases and many toxic emissions

The caps only cover nitrogen oxides (NO_x) and sulphur dioxide (SO_2), excluding emissions of greenhouse gases, toxins such as mercury and lead, and carcinogenic substances such as arsenic, beryllium, cadmium, chromium and nickel.

2. Sulphur dioxide (SO_2) emissions are allowed to increase

When fully implemented in 2007, the new cap is expected to reduce OPG's SO_2 emissions by 18 per cent. These "tough new emissions limits,"[6] however, will actually allow OPG to increase its SO_2 emissions over 1999 levels during the 2001-2006 period.

3. The caps on NOx are not stringent enough

The caps on smog-causing nitrogen oxides (NO_x) would lead to a 53% decrease in emissions levels by 2007 compared to 1999 levels[7]. However, even this cut will not be enough to meet the commitments made in the 2000 *Ozone Annex to the 1991 Canada-United States Air Quality Agreement* to reduce NOx emissions to 25,000 tonnes per year by 2007. In signing this agreement, Canada agreed to reduce NOx from southern Ontario fossil-fuel power generation facilities by 50% by

the year 2007 and limit total provincial emissions to 39,000 tonnes (measured as NO_2 or approximately 25,000 tonnes measured as NO)[8].

The emissions limits introduced by the provincial government are not stringent enough to ensure that these targets will be met. The province's proposed limit for total electricity-sector emissions of 33,000 tonnes (measured as NO, including allowances and credits) in 2007 is 33% higher than the total level agreed to for Southern Ontario emissions in the Ozone Annex (25,000 tonnes, measured as NO). Considering that the majority of the province's fossil fuel plants – and therefore major sources of electricity-sector NOx emissions – are located in Southern Ontario, this raises questions about how Ontario and Canada will meet their obligations under the *Canadian Environmental Protection Act* in general and under the *Ozone Annex to the 1991 Canada-United States Air Quality Agreement* in particular.

4. There is growing evidence that voluntary caps are ineffective

Furthermore, the effectiveness of imposing voluntary caps is questionable. On June 19, 2001, the Ontario Clean Air Alliance revealed that in 2000, OPG exceeded its voluntary cap on greenhouse-gas emissions by 49%[9]. This translates into a 20% increase in emissions compared to 1999 levels. OPG failed to implement commitments to improve its own energy efficiency and to purchase green energy from independent providers and, consequently, dramatically exceeded the voluntary cap. The OCAA cited this as evidence that voluntary caps are ineffective as facilities can easily break promises and face no penalties.

5. Enforcement of regulation and penalties for non-compliance are unclear

The current proposal does not adequately outline the strategy that the province will use to ensure compliance with the regulation. There is a fair bit of skepticism about the ability of the Ministry of the Environment, which has suffered severe cutbacks in resources and staff, to properly enforce this kind of regulation. Furthermore, MOE has yet to articulate the sorts of penalties, if any, that will be imposed on facilities that exceed the caps. The lack of information and clarity on this element of the regulation calls into question MOE's commitment to effective enforcement of caps on air pollution, even given its general authority to enforce the law under the Environmental Protection Act.

On October 24, 2001, MOE announced a proposal to tighten deadlines for emission reductions. It has promised that province-wide targets for emissions of NOx and SO2 will be moved up from 2015 to 2010 in keeping with the province's commitments under the Canada-Wide Standards.[10]

B. Coal-burning power plants

Coal-burning power plants are among Ontario's worst polluters. In July of 2001, the North American Commission for Environmental Co-operation released data that showed that OPG's large coal-burning power plant in Nanticoke is the worst polluter in Canada in terms of the on-site releases of chemicals[11]. There is a concern that the deregulation of the energy market, which will allow consumers to select energy based on price and/or generator, may lead to an increase in demand for inexpensive power from coal-burning plants. Therefore, there is an urgent need to ensure that air regulations concerning coal-burning power plants are in place before deregulation is fully implemented.

During 2000-2001, the Ontario government found itself involved in three major controversies surrounding coal-burning power plants.

1. Toxic air emissions from coal-burning power plants increased dramatically

Power derived from coal burning creates air emissions that are a threat to health. Emissions from coal plants include acid rain-causing sulphur dioxide, smog-forming nitrogen dioxide, climate change-causing carbon dioxide and nerve toxins such as mercury. During the period 1995-1999, emissions of this toxic chemical soup increased dramatically. In many cases, the levels doubled over the four years[12].

2. Coal plants continue to pollute despite Smog Alert warnings

Coal-burning power plants came under debate again in July when it was discovered that while the Lakeview coal plant near Toronto shuts down

on smog-alert days, the plants in Nanticoke on Lake Erie and in Lambton near Sarnia continue to emit smog-causing pollutants even on days when smog levels across Southwestern Ontario have reached a dangerously high level[13]. Furthermore, the plants in Southwestern Ontario were used to generate power for export to foreign markets. It is both inappropriate and irresponsible for the province to generate electricity for export using coal-burning power plants on smog-alert days. This practice continues despite the government's claim that "During a Smog Alert, the provincial government takes action to reduce smog at its own facilities."[14] (OPG is 100% owned by the Government of Ontario.)

3. Government ambiguous on implementing clean technology at Lakeview coal-burning plant

In March 2001, Minister of the Environment Elizabeth Witmer stated that coal burning at the Lakeview Generating station, the largest source of NO_x pollution in the GTA, would be phased out. Furthermore, she stated that any further electricity generation at the Lakeview station would have to meet the same emissions standards as "efficient natural gas technology". However, in July of 2001, Witmer reversed this decision when she announced she was proposing to allow the plant to use older, less-efficient technology to produce electricity. It was speculated that the Minister reversed this decision in order to protect the value of the Lakeview Plant as it comes up for sale as part of the deregulation of the energy sector (OPG has been ordered to divest generation capacity to encourage greater competition). If the plant's existing technology were rendered obsolete due to new regulations, the value of the facility would drop dramatically. The result of the minister's reversal is that the Lakeview Generating station will continue to emit toxic pollutants at a rate 20 times higher than what had earlier been promised[15].

C. Emissions trading

In March 2001, the government released a discussion paper on a proposed system for emissions trading in the energy sector. The goal of this system is to harness market forces in order to encourage reductions in the emissions of pollutants.

1. Why shift to emissions trading?

Traditional means of regulating pollution emissions are often referred to as "command and control" since they usually involve the government imposing strict controls on volumes of emissions from individual polluters. These controls, whether based on setting minimum requirements for pollution-abatement technology or maximum limits on pollution emission, are usually broad based and apply to all facilities, irrespective of their relative environmental impact. The problems with this form of regulation are said to include:

- Polluting facilities are very diverse, and there is no universal solution that will efficiently reduce their pollution levels at the least cost to all involved. For example, the cost of controlling a given pollutant can vary by a factor of 100 depending on the age and size of plant.[16]
- Imposing a minimum standard of technology or a maximum level of emissions removes the incentive for firms to reduce their emissions beyond the specified limit and fails to provide incentives for the development of new pollution-abatement technology.

An emissions-trading system allows facilities to earn tradable credits in return for reducing their emissions. Other facilities may purchase these credits if they find that this is a more cost-effective solution than abatement. Usually, such a system operates under a total and/or individual caps for the emissions that are being traded. Under this type of system, governments can still control the total aggregate level of emissions by buying up credits on the market and/or by tightening the caps. Facilities, meanwhile, have greater flexibility in deciding how to address their emissions. The result is a relatively low-cost system that also provides incentives for innovation, the development of new abatement technologies and the growth of green power sources such as solar and wind.

However, such a system may lead to serious

environmental disparities. Unless additional measures are taken, larger, more powerful polluters may be able to "pay their way" out of cleaning-up operations, especially compared to smaller facilities with fewer resources. The result can be an overall decrease in emissions but an increase (or continuation of the status quo) in localized pollution around large operations.

2. Ontario's (missing) cap and trade system

Originally, Ontario's system involved imposing caps on emissions on firms or facilities within the fossil-fuel electricity generation sector only. These caps would be lowered over time in an effort to reduce total emissions. It was later decided to also allow facilities in non-capped industries to earn credits for investments or operational measures that resulted in emission decreases. These credits can be sold to facilities operating in the capped sector.

In the capped sector, facilities that have reduced their emissions will also be able to earn credits, which can then be sold to other facilities that have not reduced emissions sufficiently to comply with provincially regulated maximum emission levels[17]. Facilities will be able to purchase emissions credits for nitrogen oxides equivalent to one-third of their total assigned allowances and credits for sulphur dioxide equivalent to 10% of their total assigned allowance.

3. Concerns with the proposal

While in theory, a tradable permit system can achieve positive results, the system outlined in the Ontario discussion paper has some significant flaws.

1. Allowing industries that are not subject to emissions caps to earn and trade credits can lead to more pollution overall

Emissions could actually increase if new sources of emissions are not subject to emissions caps, or if reduction credits could be earned where emissions actually increase[18]. For example, if a firm in a non-capped industry introduced new technology that reduced emissions levels per unit of output, they would receive emission credits that could be sold to facilities in capped industries. However, the lack of caps on the seller of the credits means that this facility could also increase production output to the extent that the total amount of pollution released into the air is the same, if not more. Thus this system would allow the same amount or more air pollutants to be emitted.

2. Many harmful pollutants are not included

The proposal also drew criticism since the caps only deal with emissions of sulphur dioxide and nitrogen oxides, thereby ignoring carbon dioxide, the major greenhouse gas, toxins, such as mercury and lead, and carcinogens, such as arsenic and beryllium. An emissions cap and trading system that only takes a limited number of emissions into account may only serve to shift production from processes that are high in the regulated emissions to processes that, although lower in the regulated emissions, may nonetheless result in high emissions of other, dangerous pollutants.[19]

3. Limited participation for sustainable energy providers

Furthermore, the original proposal excluded many sustainable power providers, such as wind and solar generators, from fully participating in the selling of tradable credits despite the fact that facilities in other industries, such as steel, and chemical manufacturers, are able to earn credits. As the energy market moves towards deregulation, the inability of green power producers to sell credits creates an uneven playing field among competitors and gives an unfair advantage to traditional, more harmful sources of power such as coal-burning facilities. Moreover, this exclusion creates a barrier for green power producers to participate fully in the newly restructured power-generation market.

4. Need for stringent administration may be compromised by lack of resources

A trading system such as the one proposed by the government will require stringent monitoring of a variety of facilities across the entire province. The government must be diligent in ensuring that claimed emission reductions are realized and that facilities are complying with their emissions caps. This will require significant resources, which, given the sharp reduction in Ministry of Environment staff and budgets, may not be available.

On October 24, 2001 the MOE did make some improvements to the emissions-trading system.[20] There is now a new distance limit (no more credit purchases from facilities as far away as Haiti) and a renewable set-aside of 1 kilotonne of NOx for green power producers to sell as credits. But this limit to the participation of green power producers remains controversial. Moreover, while the move toward capping other major industrial emitters was welcomed, much remains unknown about which other sectors will be covered, when they will be covered and what the limits will be.

III. New Regulations on Monitoring and Reporting Air Emissions

On May 1, 2001, MOE's O. Reg. 127/01, a new air monitoring and reporting regulation, came into effect.[21] The regulation requires certain facilities to provide MOE with reports on their emissions of up to 358 pollutants. O. Reg. 127/01 is an extension of O. Reg. 227/00, an air-pollution emissions reporting and monitoring regulation that applied only to Ontario Power Generation. O. Reg 127/01 builds upon the existing regulation by expanding the scope of types of facilities and industries that will be required to monitor their emissions and will also increase the number of pollutants that will be monitored. In its first phase of implementation, both electricity generators and large facilities in other sectors, such as steel and chemical manufacturing, will have to submit reports on up to 358 pollutants. Also, some extremely large facilities will be required to report their quarterly emissions of sulphur dioxide and nitrogen oxides. In the next phase, which commences in January 2002, small industrial facilities that emit high levels of pollution in sectors such as manufacturing will also be required to report.

Although the regulation applies to a wide variety of facilities and pollutants, the screening process does not ensure that all polluters will be reporting all of their emissions. Facilities decide for themselves whether they are covered by the regulation by determining if they fall into one of the applicable categories (power generator, large facility or small facility). If a facility is covered by the regulation, there are further rules and thresholds to determine whether or not they must report on various pollutants.

Because there are so many criteria to determine whether a facility must report a given substance, facilities may not necessarily have to report on all 358 contaminants. Instead, they are required to report only those contaminants that meet screening criteria and reporting thresholds. In fact, based on the various rules and reporting thresholds for the 358 substances, an employee at the Environmental Monitoring and Reporting Branch of MOE suggested that it is unlikely that any facilities in Ontario will end up reporting on all 358 pollutants.[22]

This will mean that the government will only receive air-pollution data when a facility is emitting at levels above a certain threshold. Therefore, MOE will not be getting a complete picture of the cumulative amount of pollution entering the air at any given time. The system also ignores the specific regional impact a pollution source may have. For example, even if a small facility is not emitting enough of a particular pollutant to meet the reporting threshold, the pollution that it is being emitted may still have a negative impact on the surrounding community.

This regulation is, however, very comprehensive and covers more pollutants than the Canadian National Pollution Release Inventory and the widely respected Toxic Release Inventory in the United States[23]. It is a good first step toward achieving some of the other goals set by the province including improving air quality. By casting its net wider, the province will be able to monitor pollutants from a wider variety of sectors and facilities. This will help the province to better understand the sources of air pollution and to level the playing field among facilities that are required to submit reports.

However, the regulation has some faults as well. Its introduction has been somewhat rocky. It was originally scheduled to be implemented on January 1, 2001, but in response to industry's concern that they were not given enough time to adequately prepare for the changes, the implementation date was pushed back to May 2001. This delay will create further complications down the road as 2001 annual data will contain only eight months worth of information, compromising its usefulness in year-to-year emission comparisons.

And despite the delay, there is still concern that the stringent reporting requirements and short implementation time frame will result in inaccurate data collection[24].

Another major problem is that the data gathered from this regulation is not easily accessible to the public. Members of the public can only obtain the data by going in person to a government office. The data should be made more accessible. As long as the data remains tightly held in government offices, the public is denied the right to know about the pollution in their communities and limited in their ability to take action against polluters. When environmental monitoring and reporting systems provide the public with limited access to the relevant data (and without contextual information to understand its impacts on human health), only those firms that are the very worst polluters in any given sector will feel pressure to lower their emissions in order to not be known as the very worst polluter in their sector[25]. Under the current system, the time and energy that would be required for the public to access this information means that the pressure placed on industries to lower their emissions will likely be minimal.

The ministry itself may also face challenges in fully leveraging the potential of the information that can be derived from the data. Once O. Reg. 127/01 is fully implemented, MOE expects to receive 4-5,000 responses resulting in an immense amount of data[26]. Due to the downsizing that has occurred in the provincial government in recent years, it is reasonable to suspect that comprehensive data analysis will be a difficult task for the Environmental Monitoring and Reporting Branch. (In 1994, the ministry had an operating budget of over $400 million; by 2000 this number had decreased to $158 million. At the same time, staff had been reduced from 6,639 in 1995 to 3,380 in 2000[27].) Thorough analysis of this data will be essential for the success of other government programs, including the proposed emissions-trading system.

An adequate number of staff will also be important to ensure compliance with the regulation. As indicated previously, the Ontario government has created a compliance strategy for dealing with facilities that do not cooperate with O. Reg. 127/01 and to ensure that facilities are accurate in making their calculations. It has yet to make the details of this compliance strategy public. This compliance strategy cannot be properly administered without an appropriate number of trained personnel.

IV. Anti-Smog Action Plan

In June of 1996, Ontario's Ministry of Environment and Energy, which is now the Ministry of the Environment, launched the Ontario Smog Plan, aimed at reducing emissions that contribute to smog. (The plan was subsequently renamed the Anti-Smog Action Plan.) In October 2000, the government released a four-year progress report. While the report does highlight some tangible results, overall it tends to exaggerate the amount of progress made and fails to mention several shortcomings.

A. Reductions in emissions

One of the greatest concerns about the Anti-Smog Action Plan (ASAP) is the inconsistent and sometimes misleading methods of reporting progress in reducing emissions. For example, in the August 2000 Anti-Smog Action Plan Progress Report, the provincial government claims to have made significant inroads in the reduction of emissions of smog-causing pollutants such as nitrogen oxide and volatile organic compounds. This was claimed to be proof of progress toward its goal of reducing these two pollutants by 45% of 1990 emission levels by the year 2015, as outlined in the 1998 Anti-Smog Action Plan.[28]

However, many of the emission reductions trumpeted in the report actually occurred before the inception of the plan (i.e. pre 1996).[29] While progress may have been made in the mid '90s, in the years since, progress seems to have stalled. This finding is supported by a study released by the Ontario Medical Association, which found that while emission levels of smog-causing pollutants decreased in the early and mid '90s, emission levels leveled off in the late '90s, indicating a lack of progress in achieving further emission reductions.[30]

Another cause for concern is the way in which the government defines a reduction in emissions. Some of the government's planned reductions will actually allow levels of smog-causing pollutants to increase over time. The Anti-Smog Action Plan uses 1990 as a base year against which reductions in emissions are measured. However, since emissions are generated from industrial and economic activity, they are expected to increase over time as Ontario's population and economy grows. Therefore it is important to examine the planned emission reductions in the context of higher projected future emission levels.

The Ministry of Environment has estimated the level that emissions might reach by the year 2015 if no reductions were made at all. As illustrated in the table below, while existing and readily available reductions might seem to result in a significant percentage decrease from 1990 levels, they are much smaller when compared to 2015 levels. For example, in the iron and steel sector, if emissions are reduced by the proposed eight kilotonnes (kt), this represents a 36% decrease in emissions from 1990 levels. However, if by 2015 no further reductions are made, 27 kt will be emitted by the sector, compared to the 22 kt emitted in 1990 — a 5kt net increase in emissions. Thus the reduction commitments to date barely keep up with the projected growth in polluting emissions and fail to achieve the government's stated goal of achieving real reductions in emissions.

Furthermore, one would expect that as the plan developed, the government would be able to identify more "Existing and Readily Available Reduction Commitments" in order to achieve its goal of reducing emissions. However, quite the opposite has occurred. In 1996, the Anti-Smog Action Plan identified "existing and already available" reductions in NOx and VOC emissions totaling 257 and 260 kt. respectively[31]. However, the August 2000 Progress Reports downgrades these targets to 217 - 242 kt and 202 - 228 kt respectively[32]. In other words, instead of finding more ways to reduce emissions, the "Action Plan" seems to have found more reasons why not to.

B. Inaction on levels of particulate emissions

Particulates are one of the key components of smog. They are tiny particles in the air composed of several different substances, including sulphates, nitrates and organic compounds. Of particular concern are those that are 10 microns or

Table 1: MOE's Sectoral NOx Emission Reduction Scenarios in 1996

Industrial Sector	1990 Emissions (kt)	Gross 2015 Emissions (kt) (no reductions after '90)	Existing and Readily Available Reduction Commitments	Projected Changes in Emissions
Ontario Hydro (OPG)	77	77	19	19 kt reduction
Copper and Nickel	53	82	43	14 kt reduction
Iron and Steel	22	35	8	5 kt increase
Petroleum Refining	14	22	3	5 kt increase
Pulp and Paper	9	17	-	8 kt increase
Cement and Concrete	10	16	3	3 kt increase
Other Industrial	46	79	8	25 kt increase
Residential Fuel Combustion	16	15	-	1 kt reduction
Commercial and Institutional	8	13	3	2 kt increase
Miscellaneous	3	4	-	1 kt increase
Transportation	401	573	170	2 kt increase
Total	659	933	257	17 kt increase

Source: Wellner, John "A critical analysis of progress reported by Ontario's Anti-Smog Action Plan Partnership" October 2000

less in diameter as these are easily inhaled. High levels of airborne particles can lead to inflammation of the lungs resulting in a reduction of lung capacity and an increased rate of hospitalization[33].

A 1998 Anti-Smog Action Plan Steering Committee report promised the development of a particulate-emissions reduction strategy to be completed by the end of 1998. According to the report: "In consultation with all partners, the IP/RP work group is developing a strategy to be completed by 1998. The strategy will establish a schedule to set targets and reductions of particulate emissions and its precursors."[34]

This plan was to be finalized by 2000 and enter the implementation phase by 2001[35]. However, as of July 2001, this plan was still incomplete. The only demonstrable action that the provincial government claims to have taken regarding particulate matter, according to the 2000 progress report, is providing expertise in the development of Canada-Wide standards on particulate and ozone levels[36]. Unfortunately, the most recent data on particulate levels is from 1998, which does not allow for meaningful analysis of the impact of government initiatives to reduce particulate matter. Data up to 1998 indicates that while levels did decline in the early 1990s, progress halted in 1995 and since that point particulate levels have remained the same or have slightly increased[37].

C. Public awareness and engagement

Throughout 2000-2001, the government utilized a number of channels in order to promote the need for action on reducing air pollution. The smog-alert system informs people when smog levels rise to dangerously high levels. These alerts helped to raise awareness of the issue of air quality, especially in the summer of 2001 during which Ontario experienced a record high number of smog-alert days. The smog alerts were complemented by a government website —www.airqualityontario.com — which offers data on current smog levels in communities across Ontario.

However, data on pollutant emissions and ambient levels are still difficult for the public to access, particularly up-to-date data on particulate levels. The government should strive to make this data more easily available to the public.

Furthermore, some of the information on the government air-quality website is misleading. For example, when explaining the air-quality index (AQI), which measures levels of harmful pollutants in the air, such as ozone and nitrogen oxides, the website states "If the AQI value is below 32, the air quality is good and there are no known health effects for the majority of the population"[38]. However, this directly contradicts statements made by the medical community. Specifically, a report produced by the Ontario Medical Association states "We now know not only the serious health effects of ozone for the people of Ontario; we also know these effects are happening at lower levels of ozone than previously thought. In fact, scientists can measure damaging effects on lung functioning at very low levels of ozone. There is no "safe" level of ozone and therefore there is no "threshold" for ozone."[39]

D. Reducing transboundary air pollution

In the Anti-Smog Action Plan report, the province outlines the steps that it has taken to help to reduce the inflow of air pollution from the United States. One of the positive steps that it took was defending a U.S. Environmental Protection Agency (EPA) order that requires 22 states to develop State Implementation Plans to reduce air emissions. The order was being challenged by a coalition of states and major polluters. Ontario intervened in favour of the order as it would help to reduce transboundary pollution into Ontario. The U.S. Court of Appeals ruled in favour of the order, which requires reduction measures to be in place by May 2003 and caps to be met by 2007.

The key to reducing transboundary pollution is to pressure the United States to reduce the amount of air pollution that it produces. However, Ontario is endangering transboundary pollution-reduction measures by not keeping pace with U.S. standards on air-pollution emissions. For example, Ontario claims that it is meeting the current standards outlined by the EPA for nitrogen oxides.[40] However, the EPA is currently in the process of tightening these standards by requiring the

use of best-available technology and developing policies that will make significant reductions to emissions levels from 2004-2007.

Furthermore, EPA plans clearly assign emission reductions to particular polluters, thus creating a well-defined plan for reducing air pollution. In contrast, Ontario's Anti-Smog Action Plan does not assign emission reductions to specific sectors, resulting in confusion over who is responsible for which emission reductions and by when.[41] Unless the emission reductions are assigned to parties that will be held accountable for those reductions, there will be no impetus among stakeholders to actually implement the plan's targets.

Instead of working together with the U.S. to develop solutions to this complex problem, Ontario has adopted a "wait and see" approach by stating that it will meet or exceed future EPA emissions standards.[42] Until Ontario demonstrates genuine commitment to reducing air pollution by making aggressive reductions in its own emissions, it will lack the integrity necessary to have any influence on transboundary pollution that stems from the U.S.

IV. Conclusion and Recommendations

From June 2000 to June 2001, the provincial approach to air quality has been well intentioned, though lacking in substance and action. The province should be applauded for some of its positive initiatives, such as increasing public awareness of air pollution through the smog-alert warning system. On the other hand, the province must be condemned for continuing to operate some of Canada's worst polluting facilities, including the worst in the country, the Nanticoke coal-burning power plant. Overall, the province seems to be taking an active stance against air pollution through the introduction of a number of new regulations aimed at monitoring and capping air-pollution emissions as well as introducing a possible means of controlling them using market forces. However, these regulations have been disappointing in their lack of scope and ability to result in significant improvements in air quality. In order to address the shortcomings of the province's air-quality strategy as well as some of the particular weak spots of the new regulations, CIELAP offers the following recommendations.

1. The new emissions monitoring and reporting regulation, O. reg 227, offers the promise of providing richer information and better understanding of air pollution in Ontario. In order to fully realize this potential, CIELAP recommends the following:

   a. In order to ensure that the information stemming from this regulation is fully leveraged, the government should establish a publicly accessible website, such as the Environmental Registry of the Ontario Environmental Bill of Rights, that will allow citizens to access data and any reports or analysis of the data.

   b. To prevent further delay in implementation of the emissions-monitoring regulation, the government should improve consultations with industry and other stakeholders.

   c. In order to encourage higher rates of compliance, the province should work with the federal government to harmonize this reporting program with the National Pollution Release Inventory. This could help to lower the costs for reporting facilities and make compliance with both regulations easier.

   d. In order to bolster the resources available for the administration, analysis and enforcement of the emissions-monitoring regulation, the provincial government should pursue alternative sources of funding by examining monitoring programs in other jurisdictions and exploring the feasibility of collecting fees from industry.

2. Ontario has introduced regulations that will attempt to cap the amount of certain harmful pollutants emitted into our air. Unfortunately the regulation in its current form is weak. In order to strengthen the regulation, CIELAP recommends the following:

   a. The regulation must be expanded to include more pollutants, including greenhouse gases, toxic chemicals and carcinogens.

b. The maximum allowed levels of sulphur dioxide and nitrogen dioxide must be lowered in order to result in a real reduction of sulphur dioxide levels and to achieve compliance with agreements made with the U.S. on nitrogen dioxide levels.

c. The MOE must be provided with adequate resources and personnel to sufficiently administer and enforce this wide-reaching regulation.

d. Penalties for facilities that exceed their caps must be made clearer and must be articulated to the public.

3. Coal burning is one of Ontario's worst contributors to air pollution and climate change. As one of the key sources of smog-producing chemicals, it is a direct threat to Ontarian's health and quality of life. To alleviate this situation Ontario must:

a. Take the necessary steps to phase-out coal-burning power plants and to promote the use of more sustainable sources of energy.

b. Impose strict emission standards on coal-burning power plants in order to ensure that they use technology that minimizes emissions as much as possible.

c. Refrain from operating coal-burning power plants to produce power for export during smog-alert days.

4. The effectiveness of an emissions-trading system is determined largely by the details of design and implementation of the system. The government's most recent proposal for such a system contains a number of flaws in both the design and proposed implementation. In order to remedy these flaws, CIELAP recommends:

a. Facilities in industries that are not restricted by caps on the amount of pollution that they can emit should not be permitted to earn and trade credits.

b. The government should explore further regulation to control other harmful air emissions, such as greenhouse gases, mercury, lead and carcinogens such as arsenic and beryllium.

c. The plan should allow green energy providers, such as wind and solar power generators, to earn and trade emissions credits.

d. The MOE must devote sufficient resources to the implementation of this proposal and be especially diligent in ensuring that claims of emission reductions are accurate and that overall caps are not being exceeded.

e. The MOE must clearly articulate penalties for facilities that breach any of the rules of this trading system and make the details of their compliance strategy available to the public.

5. Despite the rise in smog alerts and poor air quality, the actual progress of the Anti-Smog Action Plan seems to have stalled in recent years. In order to get this plan back on track, CIELAP recommends the following:

a. When reporting its progress to the public, MOE must eliminate rhetoric and offer clear, accurate reports on the progress of ASAP since its inception in 1996.

b. In order to determine the true volume of emissions that need to be reduced, the MOE must take economic and industrial growth and the resulting growth in emissions into account.

c. All partners involved in ASAP must commit to increasing, not decreasing, the amount of "existing and readily available reduction commitments". Until they do so, ASAP's progress will remain stalled.

d. The ASAP members must fulfill their promise of developing and implementing a comprehensive particulate emissions reduction strategy.

e. The MOE must strive to make more smog-related information accessible to the public, such as up-to-date data on particulate levels.

The MOE must also correct misleading statements on its airqualityontario.com website.

f. In order to address the problem of transboundary pollution from the U.S., the province must tighten up its own air-quality regulations to meet or exceed the standards set in the U.S.