

Air Pollution and Our Health

Each day we burn fossil fuels such as oil, gas, diesel and coal for our daily energy, electricity and transportation needs. It is the burning of these fossil fuels that generates the air pollutants that affect our local air quality, and greenhouse gases that contribute to global climate change. Taking steps to reduce air pollution also helps address climate change which helps to improve the health of our communities today and in the future.

What are the health effects of air pollution?

The Ontario Medical Association estimates that air pollution contributes to an estimated 9500 premature deaths in Ontario each year. (Source: Ontario Medical Association WebLink: Ontario Doctors Caring for You. June, 2008)

Specifically, elevated air pollution levels are associated with:

- An increase in deaths and hospital admittance associated with heart and lung problems
- The development of lung cancer and chronic lung disease

Who is affected by air pollution?

Air pollution affects everyone's health but especially children, seniors, and anyone with allergies, asthma and pre-existing heart and respiratory problems. Children are at a higher risk because they are outdoors more, their lungs still are developing and they breathe at a faster rate, exposing themselves to more pollutants.

How is air pollution monitored in our communities?

In Ontario, air quality is measured on a scale called the Air Quality Index. The AQI translates pollutant levels into a number from 1 to 50+ to determine whether the air quality is considered to be good, moderate or poor. The lower the number, the better the air quality.

The AQI program is managed by the Ministry of the Environment (MOE). Province-wide readings take place year-round at 40 sites, providing as many as six public reports per day. Within York Region, there currently is one air monitoring station located in the Town of Newmarket.

The MOE may declare a Smog Advisory if forecasts indicate a possible AQI reading exceeding a reading of 50 in a given geographic area. Smog Advisories are usually issued between the months of May and September.

During a Smog Advisory, the public is advised to take precautions by minimizing exposure to air pollutants and refraining from activities that could worsen air quality. To

find out more about the health effects of Smog, see the attached MOE fact sheet – “Smog Advisory Today: Even healthy kids are vulnerable”. For more information on the Air Quality Index visit www.airqualityontario.com.

The New Air Quality Health Index Pilot

Environment Canada, Health Canada, and the Ontario Ministry of the Environment have developed a new health-based tool – the Air Quality Health Index (AQHI), which is currently being piloted in communities across the country. This index will help residents better understand how to protect themselves from potential adverse effects of air pollution.

The AQHI measures air quality in relation to people’s health on a scale from one to 10+. The higher the number, the greater the health risk and the need for people to take precautions when spending time outdoors. The AQHI provides hourly and daily readings, as well as future local air pollution forecasts. Individuals can check the Index on an hourly and daily basis to see how they can plan their day and best protect themselves from air pollution.

The AQHI also provides additional information for those who can be considered at-risk (seniors, children and those with breathing problems) for the effects of air pollution. Since strenuous activities increase the amount of air people breathe, the AQHI helps individuals decide when to enjoy the benefits of physical activity by reducing or rescheduling outdoor activities.

The AQHI is being pilot tested in 2008 by Health units in the Greater Toronto Area with the goal of province-wide implementation in 2009. In partnership with the provincial and federal government and the Clean Air Partnership (CAP), the Health Protection Division of the Community and Health Services Department is co-ordinating the communication of this AQHI message out to York Region residents. AQHI forecasts for Newmarket, and other communities participating in the pilot, are posted at www.airhealth.ca.

It is important to know that the AQHI does not replace the existing Air Quality Index (AQI) which triggers smog advisories. Instead, the AQHI measures individual health risk. While the AQHI is being piloted, the Ontario MOE will continue to use the existing Air Quality Index (AQI), along with smog advisories. **The key difference is that the AQI is an air quality information tool, while the new index is a personal health protection tool.**

For more information on the AQHI see the attached brochure – The Air Quality Health Index: Protect your health. Know the numbers.” AQHI information is also available at www.airhealth.ca.

Guidelines for School Administrators

School administrators and their staff can respond to high air pollution episodes by considering the following:

- Checking the Air Quality Health Index website (www.airhealth.ca) daily and hourly, as well as registering with the MOE's Smog Alert Network at www.airqualityontario.com.
- Being aware of every student who has a medical condition that may be moderately and or severely aggravated by high air pollution levels.
- Monitoring the students who fall into the above category during all outside activities in May, June and September.
- Being ready to seek medical attention for these students and contacting their parents or guardians as required.
- Rescheduling outdoor activities to another time when air pollution levels are not high. If outdoor activities are necessary, then frequent rest breaks should be scheduled and taken.
- Avoiding strenuous exercise activities during high pollution times.
- Encouraging students to stay hydrated by drinking plenty of fluids.
- Considering energy conservation actions to reduce the school's contributions to local air pollution.

For More Information

For further information on air quality issues, to order a copy of the Air Quality Health Index brochure, or to learn more about the *20/20 EcoSchools Planner* contact York Region *Health Connection* at **1-800-361-5653**.

Here are some additional resources for schools:

- The Ontario Ministry of Environment's *Smog and Your Health* resources:
<http://www.airqualityontario.com/>
<http://www.ene.gov.on.ca/envision/air/smog/health.htm>
- *Air Quality Health Index* website:
www.airhealth.ca

- *20/20 The Way to Clean Air Ecoschools* program:
<http://www.cleanairpartnership.org/2020/index.php?p=ecoschools>
- Ontario Ecoschools Resources:
<http://www.yorku.ca/ecoschl/index.asp>
- Ontario Medical Association's *Smog Wise* program:
<http://www.oma.org/Health/smog/index.asp>
- *Earth Day Canada Eco Kids: Resources for Parents, Teachers and Children:*
<http://www.ecokids.ca/pub/index.cfm>
- *WWF - Schools for a Living Planet:*
<http://www.wwf.ca/schools/>
- *Learning for a Sustainable Future:*
<http://www.lsf-lst.ca/en/home/>
- GreenLearning resources (Pembina Institute)
<http://www.greenlearning.ca/>