



Air – We're in it together.

## WHAT CAN WE DO?

All of us can help, whether we be individuals, communities, schools, businesses, municipalities, non-government organizations, farm and livestock operators, fleet vehicle operators or industry corporations.

Take **Action for a Healthy Environment by Reducing Ozone (Action H.E.R.O.)** and make a difference in the air we breathe. Every action counts in improving our air quality.

Here are some things you can do.

- Reduce emissions at work or home (e.g. industrial operations, cattle and farm machinery operations, fleet and personal vehicles, gas lawn mowers, recreational vehicles (motorized boats, snowmobiles, quads) and wood fireplaces.
- Build awareness in your organization or community about ground level ozone and generate ideas to further reduce emissions.
- Organize an anti-idling awareness day in your community, school or workplace.

Learn more about ground level ozone and what you can do by contacting PAMZ for further information.

Go to our website at [www.pamz.org](http://www.pamz.org)

Established in 1997, PAMZ is a non-profit group that identifies air quality concerns in west central Alberta and implements management strategies to address those concerns.

In recent years ozone levels in PAMZ triggered the need for an Ozone Management Plan, as identified by Alberta Environment. PAMZ agreed to develop, maintain and assume responsibility for the plan.

The plan depends on the voluntary efforts of groups and individuals, like yourselves, to take action in reducing the formation of ground level ozone.

Become an Action H.E.R.O. Take up the Action H.E.R.O. Challenge and support PAMZ in our efforts to reduce ground level ozone and improve our air quality.



**PAMZ**

Parkland Airshed Management Zone

403.862.7046 Phone

403.238.6604 Fax

info@pamz.org

www.pamz.org

P.O. Box 1020

Sundre, Alberta

T0M 1X0



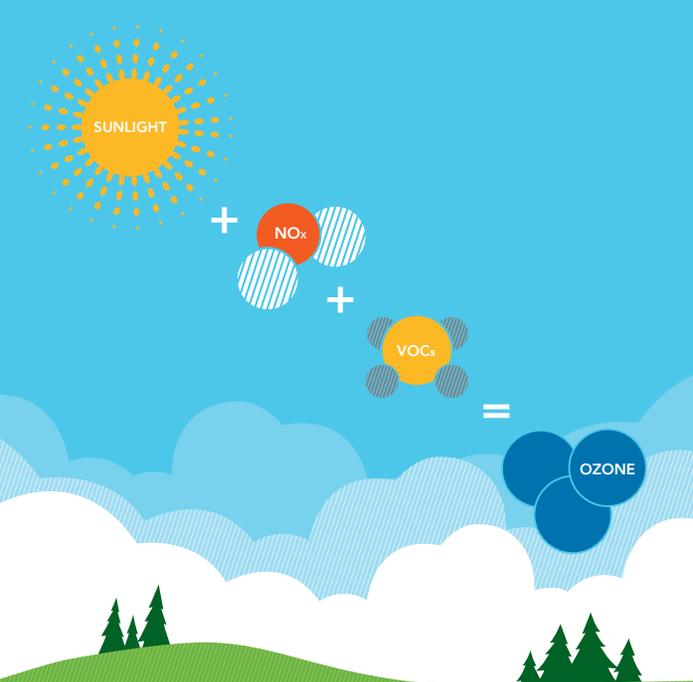
**EVERY  
ACTION COUNTS**  
**HELP REDUCE GROUND LEVEL OZONE**



Action for a  
Healthy Environment  
by Reducing Ozone

[www.pamz.org](http://www.pamz.org)

# GROUND LEVEL OZONE FORMATION



POLLUTANTS "BAKE" TOGETHER IN DIRECT SUNLIGHT FORMING OZONE.

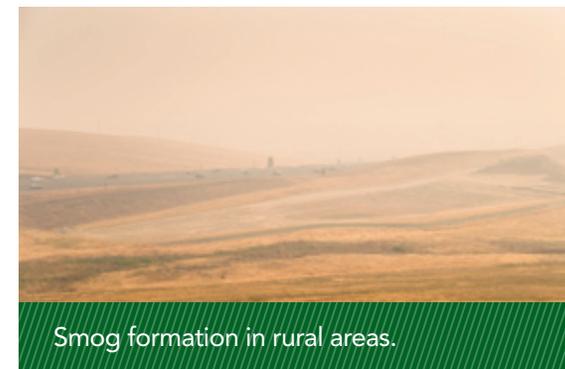
Ground level ozone can form when nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) react in the presence of heat and sunlight under stagnant weather conditions.

Nitrogen oxides are produced by the high temperature combustion of fossil fuels in vehicles, trains, motor boats, gas burning lawn and farm equipment, home heating or industrial sources like oil and gas production or power generation plants. Sources for VOCs include intensive petroleum and chemical industries, vehicular emissions, gasoline stations and storage tanks, dry cleaning, livestock operations, fireplaces, natural gas emissions and aircraft traffic.

# WHAT IS OZONE?

Normally Ozone (O<sub>3</sub>) is a colourless, odourless gas, but in higher concentrations it has a distinctive sharp odour like the smell you experience outside after a lightning storm. Ozone can actually be produced from the electrical charges in lightning.

Ozone in the upper atmosphere shields the earth from the sun's harmful ultraviolet rays. However, ozone at ground level is considered pollution because of its toxic properties and contribution to the creation of smog; that yellow or brownish haze on the horizon or over a city on a hot day.



Smog formation in rural areas.

## WHY IS GROUND LEVEL OZONE A CONCERN?

**At high concentrations ground level ozone is a pollutant harmful to human and animal health and the environment.** It can reduce lung function, cause chest tightness, coughing or wheezing and aggravate existing respiratory illness as well as irritate eyes, nose and throat. Ongoing exposure can cause permanent damage to the lungs. It can also reduce crop yields and plant growth, and damage leaves on vegetation.

Under certain weather conditions air quality can rapidly deteriorate and accumulate ozone producing pollutants that cause smog incidents, reduced visibility, health concerns, limited outdoor activity, damaged vegetation and reduced quality of life for area residents.

## WHAT CAUSES GROUND LEVEL OZONE FORMATION IN THE PAMZ AREA?

**Emissions from vehicles, oil and gas, the chemical industry, agriculture, residential heating and motorized equipment are the main causes.**

Although natural events like lightening, forest fires and animals also create ozone, human activity is the primary cause.



In peak winter Canadians idle their vehicles for a combined total of more than 75 million minutes a day – equal to one vehicle idling for 144 years.