

OIL SANDS Air



our challenge Oil sands development is associated with the production of greenhouse gas emissions, nitrogen oxides (NO_x), sulphur dioxide (SO₂), hydrogen sulphide (H₂S), ozone and fine particulate matter.

our actions The oil sands region is Alberta's most heavily monitored region for air quality. Air quality in the oil sands region is managed through a strong regulatory approval process, air monitoring stations and the use of best available technology. Industry is held accountable through ambient air quality objectives.

monitoring air quality

- > Air quality in the oil sands region is monitored 24 hours a day, 365 days a year across the region by the Wood Buffalo Environmental Association – a collaboration of communities, environmental groups, industry, government and Aboriginal stakeholders.
- > There are 16 continuous stations in the oil sands region and 42 passive industrial monitoring sites. The Government of Alberta also has a mobile unit that can be sent to “hot spots” when required.
- > Substances monitored at these stations can include particulate matter, ozone, oxides of nitrogen, sulphur dioxide, hydrogen sulphide, total reduced sulphur and carbon monoxide.
- > The Government of Alberta regularly audits monitoring stations and data throughout the region to ensure our data is accurate.
- > The Government of Alberta responds to every air quality complaint it receives.
- > Annual average concentrations of common air pollutants indicate that the region's air quality is not deteriorating despite an increase in emissions-related activities and population growth.



One of many air monitoring stations in the oil sands region.

- > Alberta's Air Quality Index shows that air quality in the oil sands area rates as "low risk" at least 95 per cent of the time.
- > Air quality is generally improving in Fort McMurray. Concentrations of particulate matter, ozone, carbon monoxide and sulphur dioxide are decreasing.
- > Alberta has an hourly air quality objective for hydrogen sulphide (H₂S) that allows us to detect and address H₂S exceedences.
- > The Government of Alberta holds facility operators accountable for finding the root cause of H₂S exceedences and the best way to mitigate them. The majority of exceedences have occurred near specific facilities and away from populated areas.

air quality health index

- > To help Albertans understand the quality of the air they breathe and take action to protect their health, the province has blended its system with the national Air Quality Health Index. The combined system reports pollutant levels hourly, provides health information and forecasts air quality a day ahead.
- > The index can be used to assess the immediate risk air quality poses to health and what steps to take to lessen that risk. It is designed by health and environmental experts as a guide to the relative risk to human health of common air pollutants such as ground-level ozone, particulate matter and nitrogen dioxide. The index does not measure the effects of pollen, heat or humidity.

managing air quality

- > The Government of Alberta has established Ambient Air Quality Objectives as indicators of air quality in the province. These objectives are used to assess compliance near major industrial air emission sources, including those around the oil sands region.
- > Industry has invested heavily in emissions abatement technology to ensure that regional air quality remains within regulated limits.
- > The government holds industry accountable for emissions through regulations and approvals. Environmental Protection Orders may be issued in instances of noncompliance, which require industry to solve air quality issues.

Air Quality Health Index

Health Risk	Air Quality Health Index	Health Messages	
		At Risk Population	General Population
Low Risk	1 – 3	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.
Moderate Risk	4 – 6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High Risk	7 – 10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High Risk	Above 10	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.