

Flaring and Air Quality

How is the Commission Limiting Greenhouse Gas and Air Pollution in Oil and Gas Operations?

A key role of the Commission is to closely review and monitor all of B.C.'s oil, gas and geothermal operations, and ensure measures are in place to minimize air emissions. This process begins with the CleanBC Plan, the Oil and Gas Activities Act, the Environmental Management Act, and associated regulations and guidance. After a project becomes operational, compliance is ensured through inspections and enforcement, when necessary.

- ✓ CleanBC launched in 2018 by the province with a focus on achieving legislated climate targets and goals. Under CleanBC there is an initiative to reduce methane emissions from upstream oil and gas operations by 45 per cent relative to 2014 levels. The Commission has new regulatory requirements in place to ensure this reduction target is met.
- ✓ The Commission issues site specific air discharge permits under the Environmental Management Act for large oil and gas operations. Each permit contains requirements for limiting the release of air contaminants such as hydrogen sulphide, sulphur dioxide, nitrogen oxides, hydrocarbons, carbon monoxide and particulate matter. Requirements to limit air contaminants for smaller operations are specified in the Oil and Gas Waste Regulation and the Drilling and Production Regulation.
- ✓ The Northeast B.C. Air Monitoring Project was supported by government and industry to measure concentrations of pollutants associated with oil, gas, and geothermal operations. Measurements were made in six rural communities from 2013 to 2017.
- ✓ There are a number of ambient air quality monitoring stations throughout B.C., some of which are located where oil and gas activity is prevalent. The annual B.C. State of the Air Report provides a summary of the readings obtained.
- ✓ The Commission has two mobile ambient air quality monitoring units: the Commission Air Monitoring Environmental Laboratory (CAMEL) and the Roaming Air Monitor (RAM). We also have two portable air monitors the size of a small suitcase that can be deployed to locations where there are concerns regarding air quality from oil, gas and geothermal operations. The Commission also supports the operation of a fixed monitoring station that is currently located in Farmington and relies on funding from the BC Oil and Gas Research Innovation Society.
- ✓ The Commission Air Tool (CAT) was developed as an interactive web-based map to provide information and results from oil and gas operations.

Flaring accounted for **6.2%** of GHG emissions from the upstream oil and gas sector

97% solution gas conserved in 2018



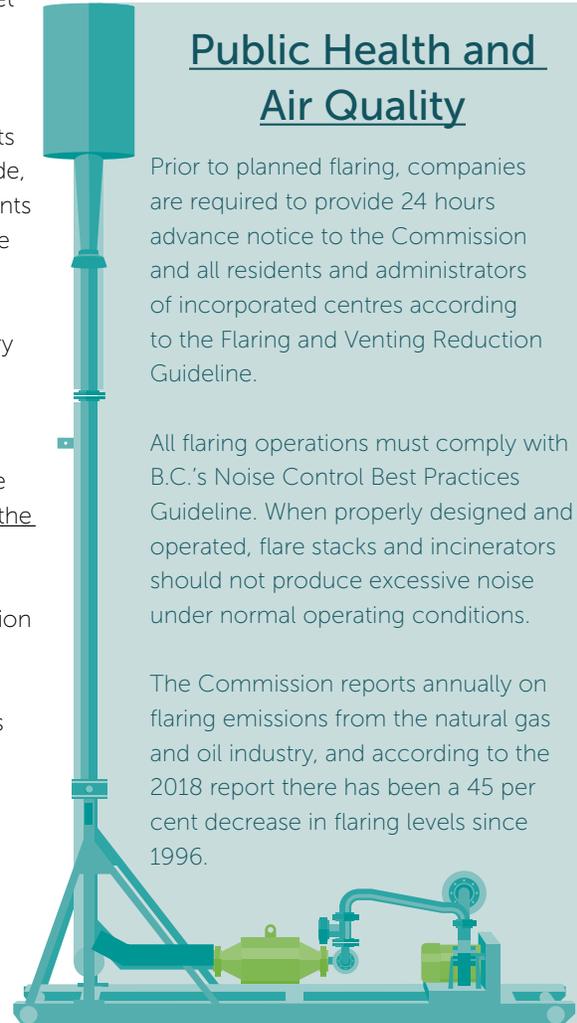
Source: 2018 Air Summary Report

Public Health and Air Quality

Prior to planned flaring, companies are required to provide 24 hours advance notice to the Commission and all residents and administrators of incorporated centres according to the Flaring and Venting Reduction Guideline.

All flaring operations must comply with B.C.'s Noise Control Best Practices Guideline. When properly designed and operated, flare stacks and incinerators should not produce excessive noise under normal operating conditions.

The Commission reports annually on flaring emissions from the natural gas and oil industry, and according to the 2018 report there has been a 45 per cent decrease in flaring levels since 1996.



For Further Information

Email ogc.communications@bcogc.ca or call 250-794-5200

24 Hour Incident Reporting for Industry 1-800-663-3456

This information is published by the BC Oil and Gas Commission and is available online at www.bcogc.ca

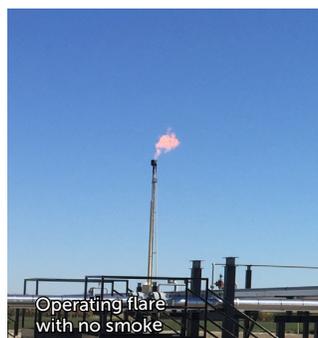
What Activities Affect Air Quality?

Emissions arise from flaring, venting, leaks and combustion equipment exhaust. Other sources include emissions from transportation, processing, transmission and distribution of gas.



What are Flares?

Flares are elevated, vertical stacks that burn waste gas that cannot be processed or sold. Waste gas is gas that is uneconomic to recover or gas that is released as a result of maintenance or over pressure events. Most flares in B.C. have a burner tip that produces a visible flame in open air.



Have Flaring Practices Changed Over Time?

Yes!

- Oil and gas operations are designed to minimize flaring.
- B.C. annual gas production has increased by 2.5 times over the past 20 years, while flaring volume has decreased by approximately one third.

Why is Flaring Necessary?



- **Safety assurance:** Flares protect industrial sites and surrounding communities by safely burning natural gas. Flares are also used in emergency situations or during maintenance activities to safely destroy waste gas.
- **Pollution reduction:** Flares help reduce the amount of air pollution released to the environment by destroying the waste gas instead of allowing it to be released to the atmosphere.
- **Greenhouse gas (GHG) reduction:** Methane has a global warming potential that is 25 times that of carbon dioxide. Burning methane produces carbon dioxide and water, which is preferable from a GHG perspective.

Is a Visible Flame Okay?

Yes, a visible flame on a flare tip is an indicator that the flare is burning and destroying waste gas.

What is Black Smoke?



Black smoke results when fuel is not being burned completely and contains particulate matter and uncombusted hydrocarbons.

Black smoke can be reduced by adjusting the flare operating characteristics or by modifying the design of the flare system. Air or steam assist can be used in some cases to enhance combustion but they are not common in the upstream oil and gas industry.

When is Black Smoke a Problem?

The Commission **Flaring and Venting Reduction Guideline** indicates operations that produce visible emissions for a period of five minutes or more during any consecutive two hours are problematic. If this is observed, the operator and/or the Commission should be notified so that corrective action can be taken.

Mobile Air Monitoring

Commission Air Monitoring Environmental Laboratory (CAMEL)

is a mobile unit equipped with a full suite of sensory equipment to measure air pollutants. It allows the Commission to respond to air quality concerns that could be related to oil and gas development, and is designed to measure air pollutants and atmospheric conditions.



Roaming Air Monitor (RAM)

is a specially designed van housing equipment for monitoring air pollutants that could be associated with oil and gas development. It's capable of recording air quality levels while being driven or parked. It serves as a quick response unit for emergencies. However, it can also be used for other ambient monitoring deployments when it is not in emergency service.



Public Concerns and Complaints 1-250-794-5200 (24-hour public number)

Report concerns such as odours, spills or noise.

Incident Reporting for Industry 1-800-663-3456 (24-hour emergency number)

Report oil and gas related incidents.