

# Evaluation of Air Emissions Associated with Hydraulic Fracturing

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Hydraulic fracturing—or fracing—is a well treatment process which involves the high-pressure injection of water, sand, and chemicals into geologic formations to open or enlarge and prop open fractures in the surrounding rock. As gas flows into the well, flowback and produced water are returned to the surface. Fracing technology significantly increases the ability to extract natural gas from shale and coal bed deposits around the world.

The practice of horizontal drilling and fracking to extract unconventional gas, such as gas found in sandstone or coal beds, has drawn avid supporters and vehement opposition.

Poland has embraced it. France has banned it. The United States and other countries are still debating the topic.

Objective

The goal of this study is to provide a broad overview of the atmospheric emissions associated with hydraulic

well fracturing in the upstream oil and gas industry in Western Canada.

### Scope of Work

The scope of work shall comprise an evaluation of the following topics:

- Typical emissions associated with hydraulic fracturing operations during equipment transportation, on-site operations, flowback and testing, and demobilization.
- Emissions information to include volumes, effluent composition, components emitted, emission sources, emission durations
- Provide a comparison of emissions associated with different well-types: vertical / horizontal, oil/gas, shallow/deep, sweet wells/sour wells, shale gas/shale oil Provide a comparison illustrating the similarities and differences in regulations associated with drilling and completions/fracturing between Western Canada and other Jurisdictions – primarily the United States.

### Final Report

### Report

### Environmental Science & Technology Journal Article