

# Green Scene

## Does a proposed Howe Sound LNG plant Make Sense?

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Around the world, the development of technologies for hydraulic fracturing (i.e., fracking) has resulted in the discovery of seemingly abundant supplies of natural gas. This has caused the price of natural gas to plummet. However, where fracking is occurring, local communities are raising concerns over issues such as contamination of drinking water, fracking-induced earthquakes and diminishing air quality. Despite such concerns, the BC government clearly intends to support the extraction and export of liquefied natural gas (LNG) in hopes of creating an economic boom.

The problems associated with fracking are, by now, fairly well documented. In the Peace region of BC, the backwoods are fragmented with an ever-growing network of roads and seismic lines created by the gas industry in search for new wells. This diminishes the value of habitat for the species which rely on intact forests for their survival. Local communities have also been impacted. Earthquakes measuring up to 3.8 on the Richter scale have been recorded in the Horn River Basin of BC. Fracking requires the injection of large quantities of water with additives into the ground which forces natural gas to the surface. One well in northeastern BC is reported to have had toxic water equivalent to the volume of 24 World Trade Centre towers injected into it. Sadly, the regulations for disposal of this water and other fracking-associated techniques are considered to be quite inadequate in BC. The Environmental Law Centre at the University of Victoria published a report last year which documented the need for vastly improved regulations and better government oversight of the fracking industry in BC.

In addition to these concerns, these new gas wells are often leaky and discharge unknown quantities of carbon dioxide and methane into the atmosphere. Sometimes, emissions from wells are flared which means the methane is burned to produce carbon dioxide, a less potent greenhouse gas. Nonetheless, unmeasured amounts of greenhouse gases are escaping in areas where gas wells are abundant. Scientists in the USA were dismayed to recently discover a vast plume of methane over leaky gas fields in New Mexico. While natural gas should be a cleaner-burning fossil fuel than either coal or oil, many experts are worried that with all the problems associated with fracking, fracked gas is more likely to be the equivalent of coal with regard to its global warming potential.

All of these concerns might make you think that fracking-derived natural gas should be used carefully and cautiously to limit its impact on global warming. Instead, industry is racing to exploit the apparent abundance of natural gas.

The export of this natural gas brings another problem. Natural gas must be compressed into a liquid for shipment and export. Such compression requires large amounts of energy which can add significantly to its global warming footprint. While most of the proposals for natural gas export terminals are in northern BC, one has been proposed for Howe Sound at the former Woodfibre plant site.

Information sessions as part of the BC Environmental Assessment process were recently held regarding this proposal. Because of concerns about local air quality in Squamish, the BC government has already decided the Woodfibre plant will use electricity purchased from BC Hydro to compress natural gas for shipment.

The Woodfibre plant, expected to export 2.1 million tonnes of LNG per year, will be relatively small compared to the proposed plants further north. Nonetheless, compressing the natural gas will consume a huge amount of electricity - an estimated 140 MW (megawatts) per year. In addition to compressing gas for export, using the existing pipeline through the Coquitlam drinking watershed will require additional compression since this pipe cannot be enlarged or twinned. Because the compressor station is relatively close to residential areas on Westwood Plateau, electricity will be used for compression rather than building new gas-fired compressors. This will require an additional 30 MW of electricity. An additional compressor station near Squamish will require a further 10 MW which makes the total demand for electricity for this one small plant to be 180 MW per year.

For a small LNG plant, this is a huge amount of electricity. In fact, it could be considered to be equivalent to about one third the output of Site C. Although the nameplate capacity of Site C is 1100 MW, hydro plants depend on water flow which varies throughout the year. Thus, the effective MW capacity of Site C is approximately half its nameplate capacity. Given that Site C is expected to cost about 9 billion dollars, the provincial government seems surprisingly willing to provide costly electricity to help sustain the very questionable LNG industry.

Another concern is Site C is not expected to be online until 2021 at the earliest so, in the meantime, it's unclear where an additional 180 MW of capacity can be found. With the Woodfibre LNG plant possibly operating as soon as 2017 and Burrard Thermal scheduled to shut down in 2016, BC Hydro could be facing a severe shortage of capacity in the very near future. Once again, this calls into question the wisdom of the provincial government's decision to shut down Burrard Thermal. Wouldn't it be wiser to ask the BC Utilities Commission to review this decision?