

# Climate effects of LNG Canada

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## **What are BC's current upstream oil and gas sector greenhouse gas emissions?**

- In 2015, oil and gas sector upstream greenhouse gas (GHG) emissions were 11.5 million tonnes of carbon dioxide equivalent (Mt CO<sub>2</sub>e)
- The large majority of these GHGs were from gas wells, batteries and processing plants (10.7 Mt CO<sub>2</sub>e) with the remainder coming from natural gas transmission (0.24 Mt CO<sub>2</sub>e) and oil refineries (0.58 Mt CO<sub>2</sub>e)
- Of these emissions, 6.8 Mt CO<sub>2</sub>e were from combustion, 0.6 Mt CO<sub>2</sub>e from flaring, 3.0 Mt CO<sub>2</sub>e from carbon dioxide and methane venting, 0.8 Mt CO<sub>2</sub>e from fugitives (methane leaks) and 0.2 Mt CO<sub>2</sub>e from process emissions

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## **What are the expected emissions of the LNG Canada facility? How does its emissions intensity compare with other global LNG facilities?**

- The first two production units ("trains") of LNG Canada will produce approximately 12 Mt of LNG at an emission intensity of 0.15 tonnes carbon dioxide equivalent for each tonne of LNG produced for total emissions of 1.8 Mt CO<sub>2</sub>e.
- According to independent research on leading LNG facilities, LNG Canada will have the lowest emissions intensity of any LNG export facility in the world.

## **What are the related upstream emissions from that facility**

- The extraction, processing and transmission emissions associated with the LNG production would be approximately 2.27 Mt CO<sub>2</sub>e.

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**Is there any way to further mitigate the emissions that remain?**

- Aggressive electrification could bring upstream emissions as low as 0.97 Mt CO<sub>2</sub>e.

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**So, if facility emissions are 1.8 Mt CO<sub>2</sub>e and upstream (without aggressive electrification) are 2.27 Mt CO<sub>2</sub>e, is it fair to say that BC's emissions will be 4 Mt higher with an LNG facility?**

- No. Modelling has shown that when BC produces natural gas for LNG production, it is offset by reductions in gas produced for other purposes, like pipeline export.
- Of the 1.5 billion cubic feet/day required to supply LNG Canada, only 20% of this comes from new production; the remainder is from gas diverted from pipeline exports or increased imports.

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**What are the downstream emissions (end use combustion) from the LNG from LNG Canada?**

- End use GHG emissions depend on the efficiency of the power plant that is converting the LNG into electricity or heat. One meta-study found that each tonne of LNG would have approximately 2.66 tonnes CO<sub>2</sub>e emissions from end use combustion.
- If this LNG is displacing higher emission fuels like diesel or coal, there could be significant global lifecycle emission reductions from LNG Canada's exports.
- A recent study by the University of Calgary and M.I.T. determined that, pro-rated, 12 Mt of BC LNG (i.e. LNG Canada's output) would lead to 16 to 34 global lifecycle GHG emission reductions.