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Leave it in the ground? A welfare economics analysis of curtailing oil and gas production under the Canadian oil and gas emissions cap

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Canada has two key policy measures that directly address emissions from the upstream oil and gas sector. One is the federal and provincial output-based pricing systems (OBPSs), which aims to reduce GHG emissions by incentivising emission intensity reductions in production. The second policy, which was recently enacted, is the *Regulations Amending the Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector),* which aims to materially reduce methane emissions from the sector by 2030.

In late 2024, the Canadian federal government considered an upstream oil and gas emissions cap to reduce emissions, which was expected to take effect starting in 2030. Studies emerged critiquing the policy, finding that it could cut oil and gas production and cause distortions in carbon markets. Following much public debate, the Canadian federal government announced – in November 2025 - that it does not intend to enact the emissions cap. Given that the reduction of oil and gas production may result in reduced exports and GDP, thus producing a large negative economic externality, we investigate the circumstances in which shutting in (i.e. curtailing) oil and gas production could be economically justified under the emissions cap.

Building on previous studies, we construct marginal cost curves for shutting in different types of production at various emissions intensities using an input-output model to compare to the environmental cost of emissions, which is assumed to be the previously targeted CA$170/t$CO_2$e 2030 federal minimum carbon price . We then use this analysis to investigate the conditions in which shutting in production could be potentially justified under an output-based pricing system that include all GHGs (i.e. include all methane and non-methane emissions) and the methane regulations. We find that at the assumed 2030 carbon price it may not be cost-effective to shut in natural gas, oil sands, and conventional oil production relative to emitting methane and non-methane GHGs across the range of tested emissions intensities to comply with an emissions cap. Our results also suggests that at the assumed 2030 carbon price shutting in oil and gas production may not justified under the methane regulations or an OBPS system that include all GHGs.

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We conclude that the government's decision to remove the oil and gas sector emissions cap was generally the right decision from a welfare economics perspective. However, we believe further analysis is warranted on the marginal cost of shutting in some natural gas production to abate both methane and non-methane GHGs, given its relatively close proximity to the 2030 carbon price, especially at higher emissions intensities.

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