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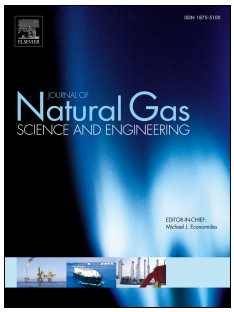

Techno-economic and life cycle assessments of the natural gas supply chain from production sites in Canada to north and southwest Europe

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Techno-economic and life cycle assessments of the natural gas supply chain from production sites in Canada to north and southwest Europe

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Abstract

In recent years, the need for energy security strategies through liquefied natural gas (LNG) import has occupied an unprecedented spot in the European Union's foreign policy agenda. The availability of abundant natural gas resources in Western Canada, making this region a potential supplier, has, therefore, received significant attention. In order to ensure a competitive spot in the global natural gas market, it is important for Canada to supply its natural gas both at a competitive price and with lower emissions. In this study, a comparative assessment of the delivered costs and life cycle greenhouse gas (GHG) emissions of the natural gas supply chain from production sites in Canada to north and southwest Europe is conducted through the development of techno-economic and life cycle analyses models. Two possible supply chain routes to Europe were explored, one from the west coast and the other via the east coast of Canada, and included recovery, processing, transmission, liquefaction, shipping, and re-gasification. Two sources of Canadian natural gas reserves, Montney and Horn River, are

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