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Title:

A Sustainability Assessment of LNG as a Marine Fuel: A Development Opportunity for the Arctic?

Abstract:

Current and impending International Maritime Organization environmental regulations are driving a transition away from the highly polluting heavy oil based fuels traditionally used for maritime transport toward an alternative fuel source. Among the potential alternatives, liquefied natural gas is emerging as a viable and attractive choice due to certain environmental and economic characteristics that can be considered to give liquefied natural gas an advantage over other compliance options.

The Arctic region offers an excellent area of study for this transition due to the complex governance conditions of the region as well as the unique opportunity that the Arctic presents as an environmentally sensitive and important area. Despite the Arctic region having historically experienced relatively low levels of development in comparison with the rest of the planet, growing interest in the vast resources located within the region have initiated a tremendous amount of interest in the possibility of future development taking place within the region.

The prospect of significantly increased development activity taking place in the Arctic, particularly activities related to maritime functions, will have significant implications for the region as well as beyond. By taking into account the perspectives of governance actors at varying levels and through the use of cost-benefit analysis, this study will provide an evaluation of the environmental, political and economic implications of a transition towards liquefied natural gas being utilized as a maritime transport fuel in the Arctic region.