The Economics of Arctic Islands Natural Gas

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The North American natural gas market has undergone massive shifts in both supply sources and demand structure over the past decade—with a high degree of price volatility throughout the changes.

The mix natural gas demand for industrial fuel and feedstock, electricity generation, and commercial/residential use has changed dramatically. In response, the mix of conventional and non-conventional supply has shifted equally dramatically as the upstream sector attempts to meet demand. There is now a need for supplies from outside the region's traditional basins, whether from North American frontiers or foreign sources.

The Canadian Arctic is poised to emerge as a plentiful—and politically stable—potential source of natural gas for the North American market

CERI has evaluated several methods for delivery of Canadian Arctic natural gas to southern markets. Obviously LNG is one method, but gas could also be delivered as CNG (compressed natural gas) or as GTL (gas to liquids) under varying circumstances.

However, the economics of each of these technologies for Canadian Arctic natural gas depends on other market elements. The LNG alternative requires custom tankers, perhaps trans-shipment facilities, and receiving regasification terminals. The CNG alternative assumes the availability of connection to a conduit such as the Mackenzie Valley pipeline to connect to the Alberta system and beyond. The GTL alternative assumes development of the technology on a large scale commercial basis.

While the costs of are not prohibitive, all three methods require future natural gas prices that are consistently higher than today's market.