Intelligence MEMOS

From: James Coleman and Sarah Jordaan

To: The Hon. Catherine McKenna, Minister of Environment and Climate Change

Date: August 24, 2016

Re: How Canadian Liquefied Natural Gas Can Help Reduce Global Greenhouse Gas Emissions

Your government is poised to release the findings of the first environmental assessment of a major LNG facility by October. One of the biggest public controversies has been how LNG exports will impact global greenhouse gas (GHG) emissions. It is impractical to assess how any individual facility will affect the overseas energy markets that would use Canadian LNG. But LNG from B.C. has the potential to reduce global GHGs if it is used to replace coal power abroad.

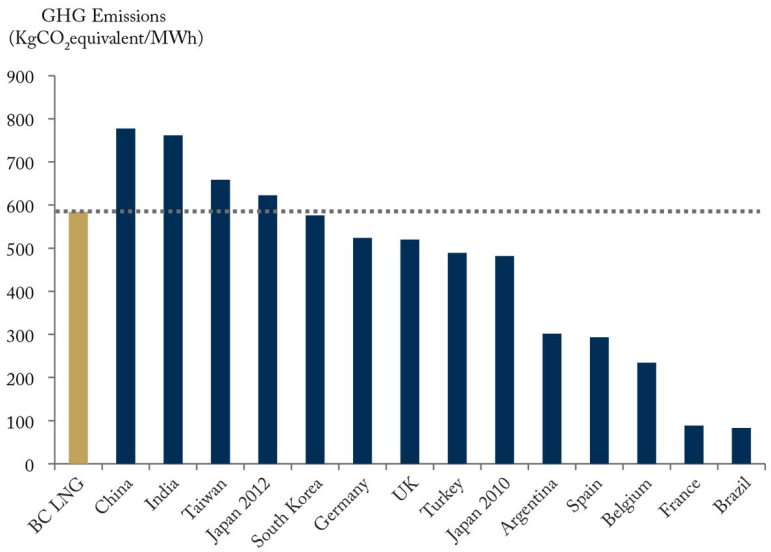
Determining whether a particular fuel will raise or lower global GHG emissions can be tricky. Scientists rely on a tool called "life cycle assessment" to answer this question, but it relies on uncertain estimates and assumptions. The impact of LNG exports on GHG emissions would depend on what power sources they replace. This, in turn, depends on the destination of those exports.

If LNG from Canada serves coal-dependent countries in Asia, it will likely lower global greenhouse gas emissions. B.C.'s LNG industry is well-positioned to support this effort because it has easy ocean access to markets in Asian countries. Countries like China, India, Japan, and Taiwan are heavily dependent on coal-fired power, so they could cut their GHG emissions significantly by replacing these sources with natural gas from Canada (see figure below).

On the other hand, LNG would raise global emissions if it slowed the growth of solar and wind power or was used to cut back on low-carbon sources such as nuclear power. These scenarios would be more likely in European countries that use more renewable power and are considering reducing their use of nuclear power. So LNG exports from B.C. might play a greater role in emissions reductions than Canadian and US LNG facilities on the east coast that are better suited to serving European demand.

Although it is important for policymakers to consider the global impact of LNG exports at a high level, it is impractical for regulators to assess how individual LNG export facilities will affect overseas GHGs. At the time a facility is approved, federal regulators cannot predict exactly where the natural gas will be consumed and what power sources it will replace in importing countries.

Canadian LNG can play a positive role in addressing one of the world's economic and environmental problems if Canadian regulators maintain focus on controlling emissions within their authority and rely on diplomacy to encourage emissions reductions overseas.



James Coleman and Sarah Jordaan are co-authors of the C.D. Howe Institute study "Clearing the Air: How Canadian LNG Exports Could Help Meet World Greenhouse Gas Reduction Goals.