

Intelligence MEMOS



From: Blake Shaffer
To: Concerned Canadians
Date: November 21, 2017
Re: **WHAT'S THE REAL DEAL WITH KEYSTONE XL?**

Keystone XL – the 830,000 barrel per day pipeline to deliver heavy crude from Alberta’s oil sands to the US Midwest and Gulf Coast – just passed its last major regulatory hurdle, receiving [approval](#) from the Nebraska Public Service Commission by a narrow 3 to 2 margin.

While it is far from a done deal – there are still state and federal court challenges ahead, a commercial decision to proceed, and a vehement opposition movement that is not going away – Keystone XL is a huge step closer to reality.

It has been a flashpoint of environmental opposition to the oil sands, and fossil fuels in general. Yesterday’s decision was narrowly focused on effects in Nebraska, but the broader debate is whether pipelines that carry crude from Alberta’s oil sands conflict with the need to decarbonize our energy system and avoid the deleterious effects of climate change.

The case for Keystone XL is that it provides an outlet for Alberta’s oil production. Alberta’s current oil sands production of approximately 3.2 million bpd has access to current export capacity of just under 3.5 million bpd. The [National Energy Board](#) estimates that without additional export capacity, the Western Canada Select price – the Alberta benchmark for heavy oil – will decrease by \$10 per barrel.

This has two implications. A larger price discount means less investment in oil production in Alberta. From an environmental perspective, this only has benefits to the extent demand is either reduced or met by alternative supply with lower emission intensity.

To be sure, oil sands production is more emission intensive than many alternatives, but not to the extent one might think. Roughly speaking, conventional oil means emissions of roughly 25-35kg of CO₂ per barrel during the production process; oil sands emission intensity ranges from 40 to well over 100 kg per barrel, depending on the geology and upgrading.

Alberta’s newly introduced carbon pricing scheme on large emitters provides cost advantages to those who can reduce their emission intensity, and thus the incentive to do so. In some facilities, the emission intensity of extraction has dropped below 40 kg per barrel – approaching conventional levels, and lower than the alternatives, such as Venezuela, vying for US refinery space configured for heavy oils. From a wells-to-wheels standpoint, the difference is even less.

The other implication of a deeper price discount with no Keystone XL is a shift to alternative transport options, such as crude-by-rail. In a [recent C.D. Howe Intelligence Memo](#), the authors of a NBER research paper highlighted the difference in external costs from pipelines versus rail. On the spill and accident front, despite the severity of pipeline spills, rail poses much larger external costs. But, the authors note that the larger difference comes from air pollution and greenhouse gases. Using a spatial model of railway tracks, the authors found that the proximity to populated centres, and the use of diesel-powered locomotives, imposes much larger external costs from rail, as compared to transport by pipelines.

But appeals to lower external costs and claims of decreased emission intensity are unlikely to sway those that view opposition to pipelines as essential to combatting climate change. In many ways, opposition to pipelines has become a symbolic rather than practical fight. There are valid – and important – reasons to reduce our global emissions of greenhouse gases. Blocking pipelines is an expensive way to get there, one that yields little environmental benefit.

Blake Shaffer is a PhD candidate at the University of Calgary and former Director of Energy Trading for TransAlta Corporation. He has also served as a Policy Advisor to the Government of Alberta. The opinions expressed herein are his own.

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