

Study: US must encourage development of Canadian oil sands, mitigation of CO2 emissions

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To successfully reduce the United States' dependence on fuels from outside North America, the government must pursue policies that foster the diversion of Canadian oil sands crude to U.S. Gulf Coast refineries, according to a new study by Rice University's Baker Institute for Public Policy.

The study calculates that this move would reduce the U.S. trade deficit through increased trade with Canada. The additional [carbon dioxide](#) emitted during the sands' extraction and refinement can be offset by promoting the replacement of coal with gas in electricity generation. This recommendation comes within the context of recent discoveries of natural gas in the U.S., developments in technology for the exploitation of Canadian [oil](#) sand that dramatically changed the liquid-fuels market in North America and the world as well as debates over the Keystone pipeline project.

The paper was co-authored by two Rice Scholars at the Baker Institute: Dagobert Brito, Rice's Peterkin Professor of [Political Economy](#), and Robert Curl, Rice's Pitzer-Schlumberger Professor Emeritus of Natural Sciences and professor emeritus of chemistry.

"The market for petroleum is global," the authors wrote. "Canada will produce oil from the sands regardless of any U.S. policies. It is less expensive for Canada to use U.S. Gulf ports to market their oil. This oil

will create jobs in the U.S. [petrochemical industry](#) and would be a secure source of oil for the [United States](#) were world oil markets to be disrupted." The authors also said that Canada is the United States' largest trading partner and that experts estimate more than 50 percent of Canadian income from the sale of oil would be spent in the U.S., which would have a substantial impact on the federal balance of payments.

To address climate change-related concerns over the additional carbon dioxide associated with Canadian oil sand production, the study's calculations demonstrate that the replacement of coal electricity generation with gas would do much to reduce carbon dioxide emissions in the U.S. and is the least expensive way to pursue a reduction."The present glut in the gas market is a golden opportunity to push this change by adding a limit in terms of metric tons of carbon dioxide per megawatt-hour through adding carbon dioxide to the pollutant list for [electricity generation](#) plants, and gradually tightening it," the authors said.

In summary, the authors wrote, "We believe concern about additional carbon dioxide emissions from Canadian oil sands production is misplaced. The strategic advantage of access to this resource far outweighs the extra carbon dioxide from its production, as this carbon dioxide can be more economically offset elsewhere in the economy. Effective government policy would encourage the development of the Canadian oil sands and the mitigation of the carbon dioxide emissions."

Key related facts, according to the U.S. Energy Information Administration:

- The amount of natural gas that can be recovered in the U.S. is 2,100 trillion cubic feet, enough to supply the U.S. for about 90 years at current consumption rates.
- Currently, U.S. oil production is 5.5 million barrels a day, of

which 1.7 million barrels a day are from Gulf of Mexico offshore production.

- Canadian [oil sands](#) reserves are estimated to be about 170 billion barrels of oil – second only to Saudi Arabia and enough to supply 5 billion barrels a day for more than 90 years.

More information: The study, "Allocation of Carbon in the Production of Liquid Fuels and Electricity in the United States":

www.bakerinstitute.org/publications/energy/energy-060812.pdf/view

Provided by Rice University

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