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Climate change policy could make Keystone XL obsolete

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Local View:

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Clearly the Keystone XL pipeline threatens both surface and ground water that sustains the agricultural economy of Nebraska, but the projected profitability of tar sands oil and the pipeline operation are dependent on the future economics of climate change.

The vast majority of the developed world already has begun climate change mitigation procedures (e.g. Kyoto Protocol), and it is only a matter of time before the United States begins to share the burden by reducing greenhouse gas emissions via necessary policy.

There is essentially no scientific disagreement on the fundamental understanding of anthropogenic climate change, and the melting trend of the Arctic ice cap is undisputable proof of a warming climate with significant consequences for society. Climate change policy likely could include a carbon tax on fuel emissions.

A series of recent extreme climatic events in the United States are evidence of the near-term economic costs from anthropogenic climate change. The public and policymakers will take action when the costs of extreme weather start to outweigh the benefits of the most carbon-intense fuels.

According to climate change science, there will be an increase in droughts and heat waves (e.g. record Texas drought of 2011), higher rainfall and flooding in other regions (e.g. record Midwest flooding of 2011, 2010 and 2008), and hurricanes (e.g. northeast 2011, and Katrina 2005, which cost $108 billion dollars in damage). In 2006, The Economist magazine began to document how pricing in the U.S. insurance industry was a firm recognition of the accrual of the real economic costs of climate change.

In addition to teaching in and coordinating the energy science minor program at the University of Nebraska-Lincoln, my research studies the carbon-intensity of fuels, and I have published 12 peer-reviewed research articles on biofuels and fossil fuels in the last five years. Three recent scientific studies estimate the total carbon intensity of tar sands-based gasoline from Alberta (from both production and burning of the fuel) at an average of roughly 22 percent higher than U.S. gasoline in 2005, with the range of average carbon intensities for tar sands-gasoline at 16 to 27 percent higher than most other sources.

Alternatively, our research has shown that the use of biofuels has a lower carbon intensity compared to gasoline, which is consistent with the findings of state and federal regulators. We also have shown that tar sands contributed roughly 7 percent of U.S. gasoline in 2007, and could contribute up to 1 in 5 gallons by 2020 based upon

expectations of the increase in Canadian production, as published in Biofuels, Bioproducts, and Biorefining in 2009.

The three respected scientific assessments of the higher carbon intensity of tar sands-based gasoline indicate that this fuel will very likely experience disincentives to its future use under appropriate climate policy. Near-term policy likely would tax higher-carbon fuels, or could set greenhouse gas emissions thresholds governing incentives for transportation fuels (such as the U.S. Energy Independence and Security Act of 2007 has done for biofuels), and both of these policies could reduce greatly the profitability of the production and importing of tar sands in the United States.

Such actions in the foreseeable future could render the installed pipeline largely useless, and the money and political capital spent on this project would be largely wasted.

A forward-thinking proposal that does consider climate policy would continue to foster the domestic biofuel industry which can just as effectively offset part of the money being sent abroad for oil. With appropriate investments, the United States could follow the lead of Brazil and replace an increasing fraction of our fuel use with biofuels, while simultaneously improving the efficiency of our transportation systems and making record agricultural profits, thereby reducing farm subsidies.

The Keystone XL pipeline also potentially would lower fuel prices, which would undermine the value of our own domestic investments in fuel production and gains in efficiency, making this project a less than sound investment in our energy future.

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