Summary of Testimony by Anthony Swift, Natural Resources Defense Council

The Keystone XL tar sands project would pipe some of the dirtiest oil on the planet through the breadbasket of America to be shipped overseas through the Gulf of Mexico. Financial analysts, industry commentators, and the environmental community agree that Keystone XL is a lynchpin for tar sands expansion and the carbon pollution associated with it. Rail has proven a feasible transportation option for light crude from the Bakken formation of North Dakota and southern Canada. However, despite greater market pressures to move tar sands to the Gulf Coast than those faced by Bakken producers, rail continues to be a marginal transportation option for heavy tar sands producers in northern Alberta.

- In January 2013, when over two thirds of light Bakken production moved to refinery markets by rail, less than 2% of Albertan tar sands and conventional heavy crude production was transported by rail.
- Rail is a significantly more expensive option for northern Alberta tar sands producers – tar sands projects are 1000 miles farther from refinery markets, less heavy tar sands can be loaded onto rail cars than light crude, and tar sands by rail requires specialized rail cars, onloading and offloading terminals.
- Many new tar sands projects do not have sufficient margins to profitably internalize an additional $10 to $20 per barrel cost associated with rail transport.

The substantial risks of the Keystone XL tar sands pipeline outweigh its marginal benefits. Keystone XL would enable a substantial expansion of tar sands expansion and substantial climate pollution associated with it. The pipeline would endanger critical jobs on ranches and farms in the Great Plains states in order to transport tar sands to the Gulf Coast where it can be refined and exported. In exchange for 35 permanent jobs, Keystone XL would pose a permanent risk to American communities, sensitive water resources, agricultural industry and climate.

Anthony Swift
Natural Resources Defense Council

Testimony to the US Congress Subcommittee on Energy and Power hearing entitled "H.R. 3, the Northern Route Approval Act."

April 10, 2013

Chairman Whitfield, Ranking Member Rush and members of the Committee, thank you for today's opportunity to testify on Congressman Terry's proposal. My name is Anthony Swift. I am a policy analyst for the Natural Resources Defense Council (NRDC). NRDC is a national, nonprofit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 1.2 million members and online activists worldwide, serviced from offices in New York, Washington, Los Angeles, San Francisco, Chicago, and Beijing.

Keystone XL is critical for tar sands expansion and associated climate emissions

The Keystone XL tar sands pipeline is a lynchpin for the expansion of the tar sands bitumen production in Canada. On this point, market analysts, voices in the Albertan tar sands industry, and the environmental community agree. Industry's plan to triple tar sands production by 2030, and the significant environmental impacts associated with that plan, cannot take place without the approval of the Keystone XL tar sands pipeline as a major avenue to the needed new markets for tar sands crude.[1]

Alternative pipeline and rail tar sands transportation proposals will not allow for the same level of tar sands production expansion and the associated climate emissions as the Keystone XL

[1] Canadian Association of Petroleum Producers (CAPP), Crude Oil, Forecasts, Markets and Pipelines, June 2012, pg. 38, http://www.capp.ca/forecast/Pages/default.aspx.

pipeline. As analysts at the CIBC bank in Canada have observed, tar sands oil producers in Alberta need every proposed tar sands infrastructure project – including Keystone XL - to move forward in order to meet industry production expansion goals.[2] For the following reasons, many of these proposed tar sands transportation projects are unlikely to move forward.

Pipelines to the west and east coasts are stalled by entrenched public and First Nations opposition.[3] Many of these proposals will require the use of aging pipelines to move tar sands through communities and sensitive watersheds.[4] After the rupture of the Pegasus pipeline in the Arkansas community of Mayflower, the risks of these projects is becoming more apparent to the communities they would cross.

In its most recent draft supplemental environmental impact statement, while the State Department acknowledged that tar sands is significantly more carbon intensive over its lifecycle than conventional crude, the agency mistakenly suggested that rail could provide an economically feasible alternative to Keystone XL.[5]

The State Department made the prediction that tar sands by rail was on the verge of rapid expansion in 2011.[6] State's forecast proved inaccurate then and its 2013 forecast on the viability of rail continues to be substantively flawed. For the reasons laid out here, rail does not provide an economically feasible alternative for the Keystone XL tar sands pipeline.

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[2] Vanderklippe, Nathan. "Glut of Cheap Crude Raise Doubts Over Oil Sands Expansion." *Globe and Mail* 17 August 2012. http://www.theglobeandmail.com/globe-investor/pipelines-glut-of-cheap-crude-raise-doubts-over-oil-sands-expansion/article4485891/.

[3] Nathan Lemphers, The Climate Impacts of the Proposed Keystone XL Oilsands Pipeline, January 17, 2013, pgs. 8-9, http://www.pembina.org/pub/2407.

[4] The proposed reversal of the Portland Montreal pipeline through New England and TransCanada's conversion of its natural gas pipeline system through its east coast both require the use of pipeline systems which are over fifty years old.

[5] The State Department found that the crudes expected to be transported on Keystone XL were likely to be up to 19 percent more greenhouse gas intensive on a well-to-wheel basis when compared to reference crudes. State Department, Draft Supplemental Environmental Impact Statement, Appendix W: Life-Cycle Greenhouse Gas Emissions of Petroleum Products from WCSB Oil Sands Crudes Compared with Reference Crudes, pg. 60, March 1, 2013, http://keystonepipeline-xl.state.gov/documents/organization/205563.pdf.

[6] EnSys, Keystone XL - No Expansion Update, August 12, 2011, pgs. 52-53, 75, www.keystonepipeline-xl.state.gov/documents/organization/182263.pdf.

A cornerstone of State's conclusion that rail is a feasible alternative to Keystone XL is the example of rail use by oil producers in North Dakota and Montana. However, although over the last three years producers of light crude in the Bakken oilfields have responded to price discounts and transportation constraints by turning to rail to move their crude to market, this same scenario does not apply in the Canadian tar sands.

From 2009 to 2013, transport of oil by rail in North Dakota increased from a few thousand barrels a day to over half a million.[7] In January 2013, over two thirds of light crude produced in North Dakota was transported to refineries by rail.[8] As they turned to rail, domestic light oil producers have even rejected major pipeline proposals – including Oenok's 200,000 barrel per day Bakken pipeline.[9] When analysts talk about the upsurge of rail transport in the United States and southern Canada, this is what they're referring to – an enormous expansion of light crude from the Bakken.

However, a similar expansion has not occurred in Alberta's tar sands despite the need for additional transportation infrastructure. Data from the Energy Information Administration show that about 35,000 bpd of Canadian tar sands and conventional heavy crude – or less than 2% – moved to US refineries markets in the Gulf and East Coasts by rail in December 2012.[10]

The answer does not seem to be pricing discounts. From 2009 to 2012, producers of tar sands faced the same price discounts that Bakken producers did, if not greater ones.[11] There are two major reasons why tar sands producers haven't turned to rail to move their product to market.

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[7] North Dakota Pipeline Authority, U.S. Williston Basin Rail Export Estimates, April 1, 2013, http://ndpipelines.files.wordpress.com/2012/04/ndpa-website-data13.xlsx.

[8] Justin Miller, Wayzata firm to expand N.D. rail terminal for Bakken crude oil, Star Tribune, March 15, 2013, http://www.startribune.com/business/198551531.html?refer=y.

[9] Chicago Tribune, Oenoek Update 1: Cancels 200,000 bpd Bakken Project, Nov. 1, 2012, http://articles.chicagotribune.com/2012-11-27/news/sns-rt-oneok-bakkenpipeline-update-1l1e8mrbzd-20121127_1_overland-pass-pipeline-bakken-crude-express-pipeline-oneok-partners-lp.

[10] Company level import data from December 2012 shows that 21,000 bpd of heavy Canadian crude (API below 25) processed in Gulf Coast refineries after having crossed a potential rail port while 14,000 bpd to have Canadian crude was processed in East Coast refineries after having crossed a potential rail port. U.S. Energy Information Administration, Company Level Imports, http://www.eia.gov/petroleum/imports/companylevel/.

[11] Anthony Swift, On the wrong track: Rail is not an alternative to the Keystone XL tar sands pipeline, March 6, 2013, http://switchboard.nrdc.org/blogs/aswift/on_the_wrong_track_rail_is_not.html.

First, it is significantly more expensive for them to do so, and second, they have significantly tighter profit margins than Bakken producers.

Tar sands diluted bitumen is significantly more expensive to move by rail than Bakken light crude. There are a number of reasons for this:

- The tar sands are about 1,000 miles farther away from refinery markets than the Bakken oil fields.
- Trains moving light crude can carry nearly 30% more crude than trains moving heavy tar sands diluted bitumen.[12]
- Moving tar sands requires specialized rail offloading terminals, onloading terminals and heated rail cars.[13]

All of these factors increase the cost of moving a barrel of tar sands to Gulf Coast refineries. Shipping a barrel of tar sands diluted bitumen to the Gulf is currently costing tar sands producers $31 a barrel.[14] Moving it by pipeline only costs $8 to $9.50 a barrel.[15]

Tar sands producers also have much tighter margins than conventional Bakken producers. Tar sands crude is a lower value commodity than Bakken light crude. In addition, it has significantly higher production prices. With breakeven production costs ranging from $60 a barrel to over $100 a barrel – and increasing by each year – new tar sands projects cannot profitably bear significantly greater transportation costs associated with rail.[16]

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[12] Light crude train cars can move up to 700 barrels while heavy train cars can only move 550 barrels. Doug Wilkins, Integrated Midstream Solutions, TD Securities 'Crude By Rail Forum, pg. 11, October 2, 2012.
[13] *Id.*
[14] Nicole Mordant, Analysis: Crude-by-rail carves out long-term North American niche, Reuters, Nov. 4, 2012, http://www.reuters.com/article/2012/11/04/us-railways-oil-northamerica-idUSBRE8A30AX20121104.
[15] State Department, Supplemental EIS, Market Analysis, 1.4-49, 50, March 1, 2013.
[16] Energy Conservation Resources Board, ST98-2012 Alberta's Energy Reserves 2011 and Supply/Demand Outlook 2012–2021, pg. 3-30, June 2012; Pembina Institute: January 28, 2013 "Beneath the Surface" Report (Pg. 57) http://www.pembina.org/pub/2404; Katusa, Marin. "Oil Price Differentials: Caught Between the Sands and the Pipelines." *Forbes* 6 June 2012. Web. http://www.forbes.com/sites/energysource/2012/06/21/oil-price-differentials-caught-between-the-sands-and-the-pipelines/3/

Infrastructure is needed for tar sands expansion, and it is clear to most observers that the permit decision for Keystone XL plays a critical role in the future of tar sands production and the greenhouse gas emissions associated with it. Producing tar sands generates at least three times as much carbon as conventional crude. The Environmental Protection Agency (EPA) estimates that simply replacing the conventional crude with tar sands from Keystone XL would increase U.S. carbon emissions by as much as 27.6 million metric tons CO_2e - equivalent to the tailpipe emissions of nearly 6 million cars.[17] The first step in addressing climate change is to stop making the problem worse – and that means rejecting the Keystone XL tar sands pipeline and the higher carbon emissions associated with it.

The substantial risks of the Keystone XL tar sands pipeline outweigh its marginal benefits. Keystone XL would enable a substantial expansion of tar sands expansion and substantial climate pollution associated with it. The pipeline would endanger critical jobs on ranches and farms in the Great Plains states in order to transport tar sands to the Gulf Coast where it can be refined and exported. In exchange for 35 permanent jobs, Keystone XL would pose a permanent risk to American communities, sensitive water resources and agricultural industry.[18] We need to protect those jobs, not put them at risk of the kind of tar sands blowout that has poisoned nearly 40 miles of the Kalamazoo River in Michigan or the recent spill in Arkansas, which sent up to 420,000 gallons of tar sands oil flowing through the community of Mayflower.[19]

The Keystone XL tar sands pipeline would undermine U.S. efforts to reduce its carbon emissions, threaten communities and sensitive water resources, and increase refinery emissions in the Gulf Coast in order to provide tar sands producers a means of exporting their product on the international market. This tradeoff is not in the nation's interest. TransCanada's application to built the Keystone XL pipeline should be rejected.

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[17] Environmental Protection Agency, Comments to Draft Environmental Impact Statement (DEIS), June 6, 2011, http://www.bilateralist.com/wp-content/uploads/2011/06/keystone-xl-project-epa-comment-letter-20110125.pdf; EPA, Greenhouse Gas Equivalency Calculator, http://www.epa.gov/cleanenergy/energy-resources/calculator.html.

[18] State Department, Draft Supplemental Impact Statement Executive Summary, pg. 13-14, March 1, 2013.

[19] National Response Center, Report 104298, March 30, 2013, http://www.nrc.uscg.mil/reports/rwservlet?standard_web+inc_seq=1042498.