Summary:

The proposed Keystone XL Pipeline would transport tar sands oil from Canada to the U.S. It has become a highly politicized issue with supporters promoting the economic benefits brought to the U.S. by the construction and operation of the pipeline and the political benefit of closer relations with Canada and opponents critical of the pipeline’s safety, and the potential for environmental degradation of water, air, and local environments, and also the impact of the pipeline on carbon pollution. It is a high profile issue that has caught the attention of a wide variety of environmental groups, energy companies, labor organizations, and involving a variety of government agencies, even garnering specific mention in President Obama’s June 2013 speech on climate change.

The Keystone Mainline is an existing pipeline, owned by TransCanada that transports oil from the sand fields in Alberta, Canada, crossing the U.S. border in North Dakota, and terminating in Illinois. The 1,086 miles of the Mainline was completed and began operation in June 2010 with a capacity of 600,000 barrels of oil per day (Ramseur 2013). The Cushing Extension added a 298-mile portion from Steele City, Nebraska to Cushing, Ohio, and began transport in February 2011.

The pipeline has made national news in the United States in the last few years due to TransCanada’s proposed extensions of the pipeline in two places: one project titled now titled Keystone XL, and the other, The Gulf Coast Project. The Keystone XL, like the Keystone Mainline, would also begin in Alberta, Canada and end at the hub in Steele City, Nebraska. The Keystone XL would take an alternate route to the mainline, passing through Montana and a hub in Baker, Montana. The Gulf Coast Project would extend the Pipeline from its current end in Cushing, Oklahoma to Nederland, Texas.

The heart of the debate surrounding the pipeline lies in the type of oil transported in this system. The oil from Canadian oil sands, commonly tar sands, that is transported through these pipelines is either synthetic crude or diluted bitumen (“DilBit”). Bitumen is a heavy crude oil that needs to be diluted for transport (American Petroleum Institute 2013). The National Resources Defense Council released a report in 2011 citing that diluted bitumen is, “significantly more corrosive to pipeline systems than conventional crude,” as the “bitumen blends are more acidic, thick, and sulfuric than conventional crude oil,” (Swift, Casey-Lefkowitz, Shope 2011, 3 and 6). Synthetic crude, the other type of oil transported through the pipelines, is actually an upgraded version of DilBit refined to a quality that can be used as a transportation fuel. Some advocates are concerned that a spill of this type of oil could be more hazardous to natural resources, and put the environment at greater risk.
In addition, the process of extracting and refining this type of oil is energy, carbon and water intensive. The refining process for synthetic crude, “releases three times the greenhouse gas emissions per barrel as compared to that of conventional crude oil” (Swift, Casey-Lefkowitz, Shope 2011, 5). First, sand that contains semi-solid petroleum bitumen is collected, then crushed up, mixed with water, and transported to the extraction plant (Washington Post 2012). At the plant, the sand, bitumen, and water are separated and the bitumen is skimmed off the top then processed into heavy crude oil. The Washington Post reports that three barrels of water are needed to extract one oil barrel, leaving behind toxic ponds – and that this process creates 14 to 20 percent more greenhouse gases than conventional extraction.

Regulatory History

Because the pipeline crosses national borders, it requires a Presidential Permit. TransCanada first asked for a presidential permit from the U.S. Department of State in 2008 for both the Keystone XL and Gulf Coast projects as one. The controversy that arose relates to the specific section that crossed over the Sand Hills of Nebraska (United States Department of State 2011). The Final Environmental Impact Statement completed by the U.S. Department of State for the 2008 proposal found that the Sand Hills had a “high concentration of wetlands of special concern, a sensitive ecosystem, and extensive areas of very shallow groundwater” (United States Department of State 2011). In response to these concerns, in November 2011, the US Department of State asked TransCanada to consider alternate routes to the Sand Hills, to which TransCanada agreed.

In December 2011, Republican House leaders inserted language into the Temporary Payroll Tax Cut Continuation Act of 2011 requiring the President to make a decision on the 2008 proposed Keystone XL pipeline within two months (Taylor 2011). The Department of State and President responded in January 2012 that this was not enough time to assess the project, and denied the approval, with President Obama’s stating that, “I have determined, based upon your recommendation, including the State Department’s view that 60 days is an insufficient period to obtain and assess the necessary information, that the Keystone XL pipeline project, as presented and analyzed at this time, would not serve the national interest” (Obama 2012).

Soon after, TransCanada announced it would continue with the Gulf Coast Project separately, extending the pipeline to Nederland, Texas. In May 2012, TransCanada submitted a revised route for the XL portion avoiding the Sand Hills. To date, the project has been through various environmental reviews by the United States Department of State, and their contractor, Environmental Resources Management, and awaits the Department of State’s Final Supplemental Environmental Impact Statement (United States Department of State 2013). The Department of State released its Draft Supplemental Environmental Impact Statement in March 2013, and is currently in the process of reviewing all comments submitted on the Draft SEIS and creating the Final SEIS (United States Department of State 2013). All comments are being made public, with the first set released in May 2013.
The remainder of this case study focuses on the XL portion of the pipeline and the presidential permit TransCanada is seeking for construction across the United States border.

**Economic Impact**

The key argument that proponents of the pipeline make is the economic benefits of the project. The Canadian Energy Research Institute estimates that the increased production from Canada will “increase U.S. economic output by $45 billion per year until 2035 and that one out of every three jobs created by oil sands development will be in the United States” (TransCanada 2013a).

TransCanada has posited that both the XL and Gulf Coast Pipeline projects are anticipated to have a positive impact on the economy and will, “generate $20 billion in economic impact in the United States, including $99 millions in local government revenues and $486 million in state government revenues during construction” (TransCanada 2013b). The State Department’s Final EIS found:

“There would be temporary, positive socioeconomic impacts as a result of local employment, taxes on worker income, spending by construction workers, and spending on construction goods and services. The construction work force would... generate from $349 million to $419 in total wages. An estimated $6.58 to $6.65 billion would be spent on materials and supplies, easements, engineering, permitting, and other cost.” (United States Department of State, Bureau of Oceans and International Environmental and Scientific Affairs 2011).

However, in 2012, when President Obama denied the original Keystone XL proposal, the Department of State sent a report to Congress that critiqued the Canadian analysis. In response to job numbers, the State Department stated, “While some reports have suggested there could be over 100,000 direct and indirect jobs created by the pipeline, this inflated number appears to be a misinterpretation of one of the economic analyses prepared on the pipeline,” (United States Department of State 2012). Additionally, “the construction of the Keystone XL pipeline would likely create several thousand temporary jobs associated with construction; however, the project would not have a significant impact on long-term employment in the United States,” (United States Department of State 2012).

**Impact on Energy Markets**

TransCanada has stated that the XL pipeline will have the capacity to move 830,000 barrels of oil per day. Some question the need for this capacity, as analysts have recently pointed out that “the U.S. Energy Information Administration (EIA) expects domestic crude oil production to surge 20 percent by the end of 2014 from its level at the start of this year. That means an additional 1.4 million barrels of U.S.-produced oil will be available each day—about twice as much as the Keystone would bring in from Canada” (Cushman Jr.
Defense Council (NRDC) stated that, “The United States needs to ensure that appropriate oil refined in U.S. facilities. When the tar sands are transported until those refineries have to pay the same prices as Gulf Coast refineries” (Verleger 2011, Difiglio 2011, 3). However, the Department of Energy responded directly to his analysis stating that gasoline prices in all U.S. markets would decrease given an overall more competitive oil market (Difiglio 2011, 4). The impact of the XL extension of the pipeline on this market is uncertain.

Responding to projections that the Keystone Pipeline will reduce costs of crude oil in the US with the increased amount of imports, the State Department found that even if no new pipelines were constructed, there would be little effect on the amount refined within the U.S., and little difference in the cost and amount of crude oil and imports (United States Department of State 2012).

TransCanada argues that “energy security” is one of the primary benefits of the pipeline, explaining that the project has the, “potential to reduce the amount of oil America imports from Venezuela, the Middle East and other unstable regions of the world by up to 40 per cent. It maintains that Keystone XL oil is preferable because it is “produced in North America, by companies that employ thousands of American and Canadian citizens, under strong government regulation that is in place to protect the environment and respect human rights,” (TransCanada 2013a). However, the Department of State notes that “other new domestic pipelines, expansions or reversals of existing pipelines, and other modes of transport such as rail could play a role in increasing imports of crude oil from Canada to the United States, including to refineries in the U.S. Gulf Coast area” (United States Department of State 2012). Finally, because energy is a global good sold in a global marketplace, much of the oil that will be transported via the pipeline will be exported through the Gulf, rather than remain in the United States.

**Environmental Impacts**

In response to TransCanada’s original 2008 proposal of the Keystone XL, several environmental organizations assessed the impact of increasing transportation of heavy crude oil through the middle of the country. The National Wildlife Federation stated “communities that live near the tar sands are already experiencing health problems linked to the pollution, and dozens of wildlife species are at risk, including millions of migrating cranes, swans, and songbirds. If Keystone XL crosses our border, it will cut through thousands of miles of sensitive habitat in America’s heartland. When the tar sands are refined in U.S. facilities, the resulting pollution will foul our air and water” (Glick 2010).

When evaluating the safety risks of transporting tar sands, the National Resources Defense Council (NRDC) stated that, “The United States needs to ensure that appropriate oil
pipeline safety and spill response standards that address the higher risks associated with transporting corrosive and acidic bitumen are in place. Until these safety and spill response standards are adopted, the United States should put a hold on the consideration of new tar sands pipelines” (Swift, Casey-Lefkowitz, Shope 2011, 3 and 6).

The probability of spills was analyzed in the United States Department of State’s Final Environmental Impact Statement (EIS), issued in 2011 on TransCanada’s 2008 application, and “estimated frequency of spills of any size ranged from 1.78 to 2.51 spills per year” (United States Department of State Bureau of Oceans and International Environmental and Scientific Affairs 2011, ES-8). TransCanada had estimated a risk of 0.22 spills per year from the pipeline - given the terrain conditions, technology used in the project, and required controls (United States Department of State Bureau of Oceans and International Environmental and Scientific Affairs 2011, ES-8).

A study by the National Academy of Sciences released in 2013 found that this type of oil, “DilBit,” would not be more precarious to transport than other types of crude- a finding that is currently being highly attacked by environmentalists (Frosch 2013). This could diminish claims of the heightened risks from transporting this type of oil. The climate change issue and concern over water use in the extraction process remains. Proponents of the pipeline claim that whether or not Keystone XL is built, the oil sands will be exploited and transported somehow. If not through the pipeline, then it could fall to dirtier, more carbon intensive sources of transport like truck or rail. Opponents commonly note that these transport options are not available at the scale that the pipeline could transport and it could reduce the production of the oil sands or at least delay it.

Environmental justice, safety risks, endangered species impact, and pollution concerns are the central issues raised by pipeline opponents. Because TransCanada had to file a new application in 2012 with a reroute around the Nebraska Sand Hills, there have been several re-evaluations of these environmental risks. A Draft Supplementary Environmental Impact Statement (SEIS), issued by the Department of State in March 2013 for TransCanada’s resubmittal is currently being reviewed by various agencies. The Environmental Protection Agency’s review stated there was insufficient information for the agency to fully review and assess the environmental impacts (Climate Science Watch 2013). The EPA criticized the Supplementary Statement on a variety of points, but most notably, the Statement’s contention that the net impact of the pipeline would be roughly neutral. The EPA cites some flaws in this analysis, and also points out pipeline safety issues, nothing the difficulty and expense of a 2010 “DilBit” spill in Michigan (Giles 2013).

The US Fish and Wildlife Service’s biological opinion concurred with the Draft SEIS in that the project would have no adverse effect on any species except for the endangered American Burrowing Beetle (U.S. Fish and Wildlife Service 2013).

Political Controversy

The politics of XL pipeline are generally split across party lines, with Republican supporters detailing the project’s benefits and Democrats describing costs. Opponents of
the Keystone XL have turned to low-level county commissions and zoning boards in order to gather local opposition and present this to the federal government (Shulte 2013). In Oklahoma, in late June 2013, protesters locked down a local pump station as a protest. “Eight people locked themselves to equipment and a work trailer on the construction site east of Seminole” (Marks 2013).

Several individual citizens have fought TransCanada’s right to build the pipeline on their property using “eminent domain”. Eminent domain is the legal principle that a public entity such as a municipality or state, can take private land for public use as long as they provide “just compensation” to the property owners. Citizens in the United States can challenge this attempt by claiming application of the “Taking Clause” of the Fifth Amendment of the Constitution, which limits the government from “taking” property from an individual. In 2011, TransCanada had “34 eminent domain actions against landowners in Texas and an additional 22 in South Dakota” (Kaufman and Frosch 2011). TransCanada has successfully been granted eminent domain in almost all cases and only a few remain (Bloomberg 2013). Even though one of the most vocal opponents, Julia Tigg Crawford, still has a case against TransCanada in the courts, she was unable to stop the actual work on her Texas land. Once the pipeline portion on her land is constructed, the Gulf Coast portion of the Keystone Pipeline will be completed. (Dermansky 2013.) In Nebraska, a few cases remain and a lawsuit against the Governor and State of Nebraska is still in process (Kleeb 2013).

Congressional Republicans have made several attempts to advance a bill to force approval on the project. However, most have died in committee and none have successfully passed the House and the Senate since the Temporary Payroll Tax Cut Continuation Act of 2011. Most recently, on May 22nd, 2013, the House approved a bill giving Congress the power to approve the project instead of the President. Statements made in the Energy and Commerce Committee praised the project for the amount of jobs it would create and specifically noted that no taxpayer or federal money was going to be spent directly on the project (Energy and Commerce Committee 2013). However, it will likely not pass in the Democratic majority-led Senate or will be vetoed by the President (Mahony 2013).

Following the passage of the bill in the House, President Obama unveiled his plan to address climate change on June 25, 2013. In the speech presenting his plan, he mentioned that the Keystone XL Pipeline will not be considered if it does not address the national interest, adding, "our national interest will be served only if this project does not significantly exacerbate the problem of carbon pollution. The net effects of the pipeline’s impact on our climate will be absolutely critical to determining whether this project is allowed to go forward" (Stein 2013).

Case Analysis

The Keystone Pipeline has become a symbol of the persistence of fossil fuels and America’s difficulty in beginning a transition to renewable energy. It’s actual impact on ecosystems and climate is no different than thousands of similar projects around the country and around the world. It has become a symbolic line in the sand, and draws
enormous power from the emotion it generates. On the one side, are the forces that still believe that the climate problem is overstated and that economic growth and job creation should dominate other concerns. On the other side, are environmentalists who believe that this is the time to make a stand against a major new fossil fuel facility.

The reality is that our economy will continue to be based on fossil fuels until a less expensive and more reliable alternative is invented. Ending this project will do very little to halt the development and use of fossil fuels. It is also the case, that there is no such thing as energy independence. Our global economy is characterized by interdependence. If the pipeline is not build through the U.S., the oil will find its way to market one way or the other- as long as the market is willing to pay. The Pipeline project is more of a political issue than an environmental issue. The issue for the President is: Should the project be permitted? There is no correct answer to this question.

Case Questions:

1. What can the President do to make his decision more acceptable to those who will oppose it: If he permits the pipeline, what should he do to satisfy the demands of environmentalists? If he opposes the pipeline, what should he do to satisfy the demands of pipeline proponents?
2. Why is President Obama faced with this choice at this time? How could the issue have been avoided in the first place?
3. What can be done to hasten the transition to lower cost renewable energy?
4. What are the 3 most important arguments in favor of the project?
5. What are the 3 most important arguments against the project?
Figure 1. Proposed Keystone XL Route

(TransCanada 2012)
APPENDIX: Timeline

**September 19, 2008:** TransCanada files initial application for Keystone XL Pipeline development with US Department of State.¹

**June 30, 2010:** Phase I of the Keystone Pipeline was completed and started deliveries from Hardisty, Alberta to Steele City, Nebraska and then eastward to Wood River and Patoka in Illinois.²

**July 2010:** Competitor of TransCanada, Enbridge, had a pipeline rupture in southern Michigan, spilling tens of thousands of gallons of tar sands crude.³ Residents claim it still isn’t cleaned up.⁴

**February 2011:** Phase II of Keystone Pipeline was completed, extending the pipeline from Steele City, Nebraska to Cushing, Oklahoma.⁵

**August 2011:** Julia Trigg Crawford, a farmer from Lamar County, Texas, refused to sign a final notice of agreement with the Gulf Coast Portion of the pipeline to run through her family farm.⁶

**May 2011:** Valve failure at a pumping station in Sargent County, North Dakota results in a spill of 21,000 gallons. Later that month, 430 gallons leaked from the pipeline in Doniphan County, Kansas. TransCanada closed the entire pipeline for 2 weeks to replace fittings.⁷

**October 2011:** In response to Crawford’s refusal to sign, TransCanada sought (and was granted) eminent domain from the Railroad Commission of Texas which granted the request that the pipeline be considered a public project.⁸

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⁵ TransCanada. “Keystone’s Cushing Extension Begins Deliveries to Oklahoma.” February 8, 2011


**November 10, 2011:** Department of State announced it needed additional information concerning alternative pipeline routes to the one through the Nebraska Sand Hills. 9

**November 14, 2011:** “TransCanada announces that it will work with the Nebraska Department of Environmental Quality (DEQ) to identify a potential pipeline route that would avoid the Nebraska Sand Hills.” 10

**December 23, 2011:** The Temporary Payroll Tax Cut Continuation Act of 2011 requires the US Department of State to make a final assessment of TransCanada's original 2008 proposal project in 60 days. 11

**January 18, 2012:** US Department of State, with the President’s approval, denies the Keystone project citing insufficient time to assess the impact. 12

**February 3, 2012:** US Department of State issues official denial of the project, “which included a Memorandum from the President stating that the project would, ‘at this time ... not serve the national interest.’” 13

**February 27, 2012:** TransCanada announced plans to proceed with only the Gulf Coast portion of the pipeline from Cushing, Oklahoma to Nederland, Texas, as it does not need a Presidential Permit.

**May 4, 2012:** TransCanada submitted a revised Presidential Permit application to the US Department of State for the Keystone XL section from the Montana border with Canada to Steele City, Nebraska. 14 This time, the application avoided the Sand Hills of Nebraska.

**Summer 2012:** TransCanada began construction of the portion of the pipeline from Cushing, Oklahoma to Nederland, Texas.

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**January 22, 2013:** Nebraska Governor, Dave Heineman, approves proposed pipeline portion built in the state.\(^{15}\)

**March 1, 2013:** Department of State released a Draft Supplementary Environmental Impact Statement opening it to a 45-day public comment period. \(^{16}\)

**March 2013:** 12,000 barrels of tar-sands bitumen spilled from a burst in an ExxonMobil pipeline in Mayflower Arkansas.\(^{17}\)

**April 22, 2013:** The comment period on the Draft Supplemental Environmental Impact Statement closed. The DOS will review the statements and make revisions to the Draft SEIS as appropriate. The DOS will also seek views of other agencies and determine whether the pipeline would serve the national interest. \(^{18}\)

**May 15, 2013:** U.S. Fish and Wildlife Service issued their Biological Opinion for the proposed Keystone XL pipeline to the Department, which was prepared consistent with the Endangered Species Act. \(^{19}\)

**May 22, 2013:** The House of Representatives passes a Keystone XL Pipeline Bill expediting the process by eliminating the need for a Presidential Permit. \(^{20}\)

**May 23, 2013:** Department of State posted the first set of approximately 100,000 comments, out of the more than 1.2 million received, on the Draft Supplemental Environmental Impact Statement (SEIS) for the proposed Keystone XL pipeline to www.regulations.gov, a public website. The comments can be viewed at http://www.regulations.gov/#docketDetail;D=DOS-2013-0011.

**June 6, 2013:** Senate Majority Leader Harry Reid said there would be a vote on the House’s Keystone XL Pipeline Bill eliminating the need for Presidential permit – but no definitive timeline was given. \(^{21}\)


**June 25, 2013:** President Obama unveils plan to fight climate change. He mentions in his speech that the Keystone XL Pipeline will not be approved unless it proves to be a benefit to the nation adding, “And our national interest will be served only if this project does not significantly exacerbate the problem of carbon pollution. The net effects of the pipeline’s impact on our climate will be absolutely critical to determining whether this project is allowed to go forward.”


REFERENCES:


