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# Keystone XL Pipeline

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## ABSTRACT

*The Keystone Pipeline and everything it entails has taken over the news and the majority of North America. Most people around the United States did not know the Keystone Pipeline already existed before all of the uproar and protesting began back at the end of 2011. The part of the pipeline that does not exist is the additional expansion, the Keystone XL Pipeline, which was proposed in 2008. Since the approval of the project in March 2010, the Keystone XL Pipeline has been a problematic proposition ever since the idea was introduced by the TransCanada Energy Company. While the project was originally developed as a partnership between TransCanada and ConocoPhillips, TransCanada is now the sole owner of the Keystone Pipeline System, as TransCanada received regulatory approval on August 12, 2009 to purchase ConocoPhillips' interest. TransCanada attempted to get a permit for the new pipeline for more than three years. Since the pipeline crosses international borders, TransCanada had to obtain a Presidential Permit through the State Department for construction of the portion of the pipeline that goes from Canada to the U.S. To this day, even though a substantial amount of the project is complete, protesters are still against the idea of transporting tar sands throughout Canada and the United States to refineries in Houston, Texas so that we will have additional sources of oil and fuel to supply our needs. The paper discusses the controversy, the accounting implications, the legal implications, and local press. Pictures Included.*

**Keywords:** Keystone XL; Pipeline; Oil & Gas; Environmental; TransCanada; Tar Sands



**Picture 1:** Keystone XL Pipeline

**INTRODUCTION**

The Keystone Pipeline system consists of the operational Phase 1 and Phase II and two separate proposed pipeline expansion segments Phase III, the Gulf Coast Pipeline Project, and Phase IV, Keystone XL. Operating since 2010, the original Keystone Pipeline System is 3,461 kilometers (2,151 miles) pipeline delivering Canadian crude oil to U.S. Midwest markets and Cushing, Oklahoma (StateImpact Texas 2012).

The 1,700 miles of new pipeline, which began in August 2012, provides two new sections of expansion. The first section connects Cushing, Oklahoma, where there is a current bottleneck of oil, with the Gulf Coast of Texas, where oil refineries are dominant. The second section (Phase IV) includes a new section from Alberta to Kansas where it passes through Bakken Shale region of eastern Montana and western North Dakota. TransCanada changed the original proposed route of Phase IV of the Keystone XL to minimize "disturbance of land, water resources and special areas" and the new route was approved by Nebraska Governor Dave Heineman in January 2013. This region is popular for its oil extraction and this extraction is currently booming; therefore, TransCanada is interested in taking on some of this crude for transport. The specific states in the U.S. the pipe travels through is Montana, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. The line crosses through 16 counties in North and East Texas. The following map lays out the existing and earlier proposed routes of the pipeline. The already existing pipeline is represented by the solid lines and the proposed pipeline by the dashed lines (StateImpact Texas (2012)).



**Figure 1: Existing & Proposed Routes – Keystone XL**

Ever since the Obama administration rejected TransCanada’s original request for a Presidential permit to pipe tar sands crude from Alberta to Texas, TransCanada officials planned to build the project incrementally. The original Keystone Pipeline cost \$5.2 billion U.S. dollars, with the Keystone XL expansion predicted to cost approximately \$7 billion U.S. dollars. In addition to changing the pipeline’s course, Keystone XL also increases capacity by enlarging the size of the pipes’ diameter from its prior 30 inches to 36 inches. When completed, the Keystone XL Pipeline will add 510,000 barrels per day increasing the total capacity up to 1.1 million barrels per day. The following picture shows the actual pipeline that is buried beneath the surface in Douglass, Texas as part of the Keystone Pipeline (StateImpact Texas 2012).



**Picture 2:** Keystone XL – Douglass, TX

A section of pipe from Cushing, Oklahoma to the Texas Gulf Coast, called the Gulf Coast Project by TransCanada, is expected to be mostly operational by the end of 2013. This part of the Keystone XL pipeline will take oil from Canada to refineries in Texas. The following pictures show how workers and crews are piecing together the pipeline. Prior to hauling in the pipe and lining it up, crews are clearing the pathway for the pipeline by cutting trees, clearing brush, and surveying the area. After the pipe is hauled in and lined up, heavy machinery is used to dig the trenches where the pipe is laid into the ground (StateImpact Texas 2012).

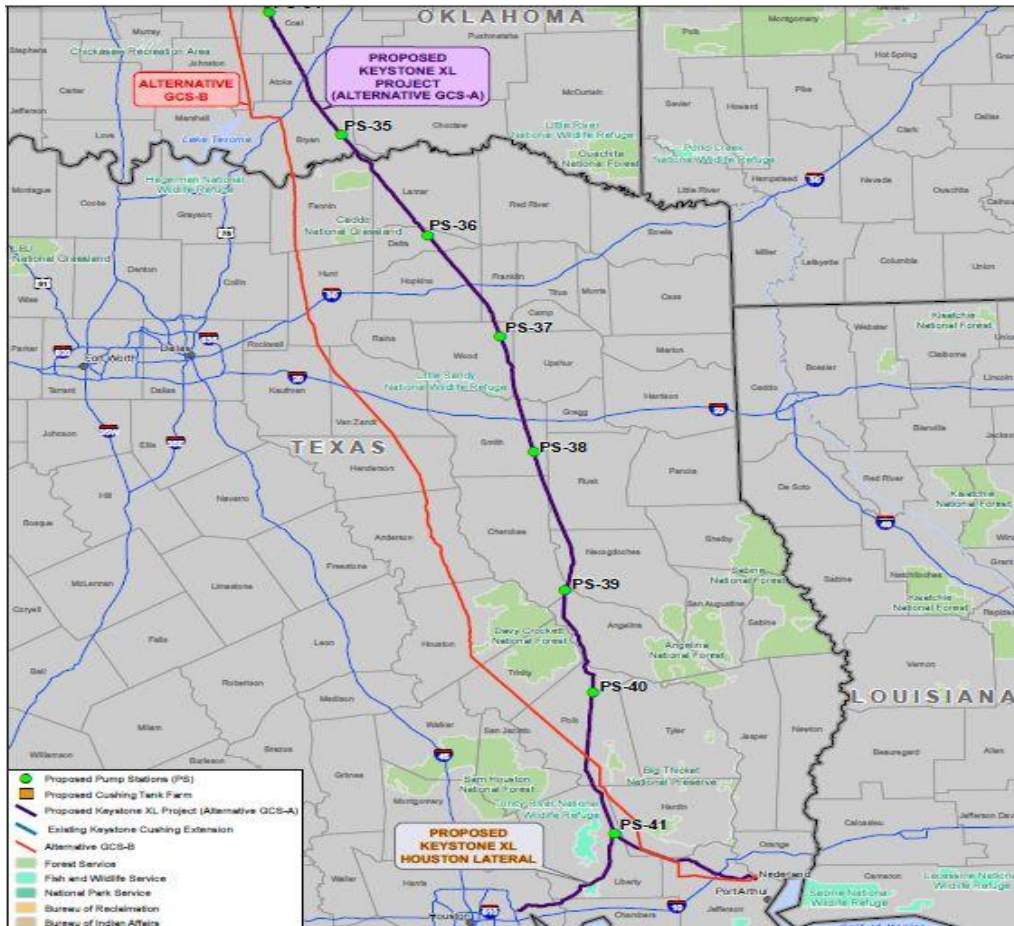


**Picture 3:** Keystone XL Pipeline Construction – Texas



**Picture 4:** Burying The Keystone XL Pipeline

Next, a map provided by the Department of State shows where exactly the Keystone XL pipeline actually travels throughout Texas: (StateImpact Texas 2012).



**Figure 2: Keystone XL – Route In Texas**

### **What Is Tar Sands?**

The tar sands are loose sand or partially consolidated sandstone containing naturally occurring mixtures of clay, sand, water, and oil. When saturated with a dense and extremely viscous form of petroleum, referred to as bitumen, modern technology can refine the two mixtures into usable oil. Natural bitumen deposits are reported in many countries, but in particular are found in extremely large quantities in Canada. Critics say that this mixture is more corrosive than conventional oil. Bitumen is a thick, sticky form of hydrocarbon, so heavy and viscous (thick) that it will not flow unless heated or diluted with lighter hydrocarbons. At room temperature, it is much like cold molasses. Oil produced from bitumen sands is often referred to as unconventional oil or crude bitumen, to distinguish it from liquid hydrocarbons produced from traditional oil wells (StateImpact Texas 2012).

### **Why Was the Pipeline Delayed?**

In October 2011, the Obama Administration attempted to delay a decision on granting the pipeline a permit until 2013 at the earliest. In its statement, the White House said the reason for the delay was environmental concerns. In addition to the White House’s decision on the pipeline, environmentalists and private homeowners in Nebraska joined forces to oppose Keystone’s route through their state. They argued that the intended route would run through the Sandhills area of Nebraska. The Sandhills are home to a giant freshwater aquifer that is used for water supply called the Ogallala Aquifer. The ground is so thin in some parts of the area that groundwater on

occasion rises to the surface. Water there is used primarily for irrigation, but some 2 million people also use it for drinking water. This part of the state is where the majority of the water resources serving the Mid-West are located (StateImpact Texas 2012).

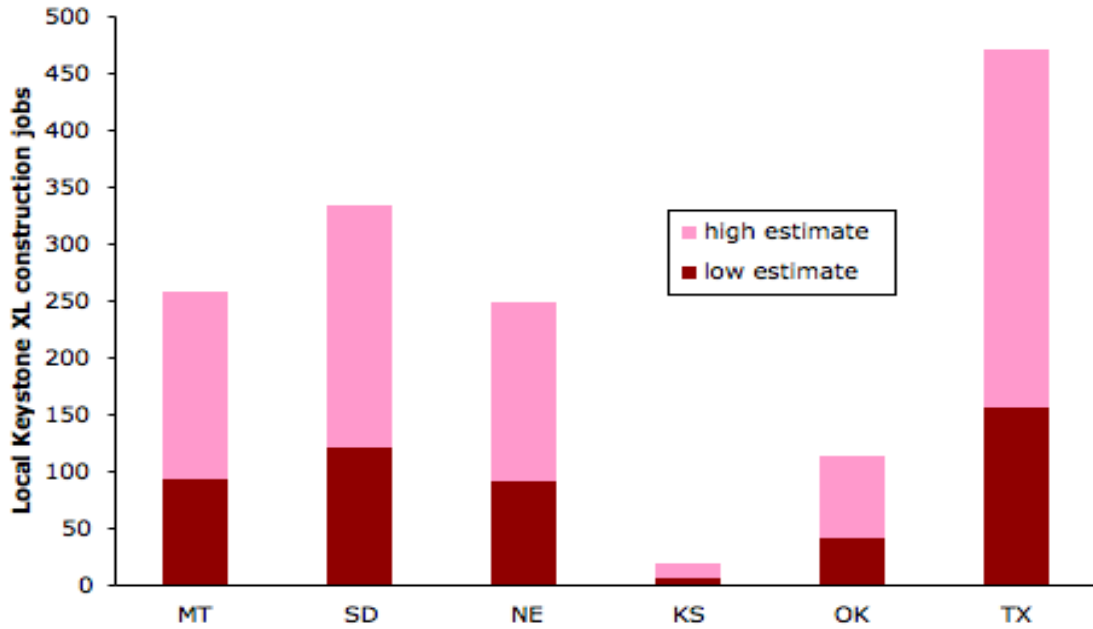
The Department of State issued their own statement, saying they would conduct an in-depth review to consider alternate routes in Nebraska. The Nebraska legislature called for a special session to discuss rerouting the pipeline to avoid the Ogallala Aquifer. However, the Department of State's research revealed that oil contamination of drinking water would not be likely in many instances because the soil composition prevents or mitigates the downward migration of oil. Also, TransCanada pointed out that the Keystone XL pipeline is equipped with thousands of sensors to monitor pressure and detect leaks, and will have additional safety systems to prevent a major oil spill. Additionally, in areas where a water table is near land surface, TransCanada will add a waterproof coating and cement casing to the piping.

### **Keystone Employment Opportunities**

Not only is the delay preventing additional imports from Canada, it is also preventing the creation of thousands of private-sector jobs. One of the top priorities in today's recent economy is the unemployment rates. When the Keystone XL Pipeline was proposed, many questioned how this would affect the economy's unemployment rates. The amount of jobs the pipeline has created is a contested issue and differs from source to source. The construction of the Keystone pipelines means thousands of jobs and more energy from a friendly supplier with minimal environmental impact. Proponents of the Keystone oil pipeline argue the \$7 billion project will create hundreds of thousands of jobs, give the economy a shot in the arm, lower gasoline prices and wean the U.S. from foreign imports" (Loris, 2011).

In addition, the construction of the Keystone XL pipeline has the potential to deliver an additional 700,000 to 830,000 barrels of oil per day to the U.S. from Canada. Because of this estimate, estimates have gone as high as 500,000 jobs created, which is highly unlikely. However, TransCanada's own evaluation estimates the pipeline will bring 20,000 new jobs to the U.S. The State Department estimated that the pipeline would only create 5,000 to 6,000 jobs in construction. The Canadian Energy Research Institute estimates that current pipeline operations and the addition of the Keystone XL pipeline would create 179,000 American jobs by 2035. The following graph depicts an estimate of temporary local constructions jobs for the Keystone XL Pipeline provided within each state in the U.S.: (StateImpact Texas 2012).

**Independent Estimate: Few Jobs From Keystone XL**



Estimates of temporary local construction jobs for Keystone XL pipeline from independent Cornell Global Labor Institute report. Chart by ThinkProgress.

**Figure 3:** Potential Construction Jobs – Keystone XL

**What Kind Of Environmental Impact Does The Pipeline Have?**

Different environmental groups, citizens, and politicians have raised concerns about the potential negative impacts of the Keystone XL project. Many critics of Keystone XL worry the pipeline will have and already has harmful environmental impacts. Environmentalists point to the main issues of the risk of oil spills along the pipeline, which would pass through highly sensitive terrain, and 12–17% higher greenhouse gas emissions from the extraction of oil sands compared to extraction of conventional oil. In Texas, the protests have been concentrated in Wood, Nacogdoches and Smith counties, as well as a few in Oklahoma. The following is a picture of a mock oil pipeline carried during a Keystone XL tar sands oil pipeline demonstration near the White House in Washington on Nov. 6, 2011: (Galbraith 2013).





**Picture 5:** Keystone XL Protest – Washington – November, 2011

The Sierra Club, a popular environmentalist group, opposes the specific use of tar sand, which is found in the deposits in Canada. A report by a coalition of critics that include the Sierra Club and the Natural Resources Defense Council claimed that “bitumen blends are more acidic, thick and sulfuric than conventional crude” and “contain significantly higher quantities of abrasive quartz sand particles.” This corrosiveness has certain parties concerned about potential future leaks in the pipeline. A U.S. Department of State investigation shows that there have been 14 spills from TransCanada pipelines, however, most relatively small. None of them were caused by corrosion of the pipeline but by faulty “fittings and seals at pump or valve stations,” the investigation reports (StateImpact Texas 2012).

For evidence against the transport of tar sands crude, environmentalists point to an event in May 2011, when 21,000 gallons of oil leaked in North Dakota. This was also due to a faulty valve. The State Department says the maximum amount of spillage in a worst-case-scenario of a Keystone Pipeline leak is 2.8 million gallons spread throughout a 1.7 mile area. TransCanada points out that this is significantly smaller than the amount that escaped during the Deepwater Horizon disaster. Recently, in March 2013, a spill of tar-sands bitumen in Mayflower, Arkansas put the Keystone XL pipeline back in the spotlight. An ExxonMobil pipeline, several years’ old, carrying tar sands oil from Canada burst, sending more than 12,000 barrels of oil down residential streets and through people’s yards. The spill was categorized as “major” by the Environmental Protection Agency (EPA) and the cleanup is ongoing (StateImpact Texas 2012).

### **Where Will All That Oil Go?**

Supporters argue that getting oil from our friendly neighbors up north is preferable to getting it from Middle Eastern countries that do not like us very much. Since our oil demand is expected to decline anyway, the oil will be pumped down to ports in Texas, where it can easily be shipped to other countries in Europe or Asia, which is also a concern that many critics have raised (Sheppard, 2011).

## **What Happens Next?**

President Obama is not opposed altogether to the construction of the pipeline. In 2012, he endorsed the building of its southern half that begins in Cushing, Okla. – an important hub for petroleum processing and transportation – and ends at the refineries on the Texas Gulf Coast. Noting that there’s a bottleneck in Cushing of oil, coming in from places like the oil sands of Alberta and the Bakken Shale in North Dakota, the President said that he’s “directing my administration to cut through the red tape, break through the bureaucratic hurdles, and make this project a priority, to go ahead and get it done” (StateImpact Texas 2012).

TransCanada naturally provided a positive response to the President’s endorsement. “Our plan is to continue our efforts to secure the permits that are necessary, so we’ve already begun that process. So we appreciate Obama’s support for expediting that,” replied a TransCanada official. On July 27, 2012, TransCanada announced that they had all the permits they needed for the southern leg of the pipeline, and that construction could begin within weeks. Despite ongoing lawsuits, the lower leg of the pipeline, the Gulf Coast Project from Oklahoma to the Texas Gulf, is projected to be operational by summer 2013. According to TransCanada officials, as of the end of February 2013, the 485-mile Oklahoma-to-Texas leg of the controversial Keystone XL pipeline is about halfway complete. Nearly all of the land along the route has been cleared, and the pipeline should be in service at the end of 2013 or in early 2014 (StateImpact Texas 2012).

## **AUTHOR INFORMATION**

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**NOTES**