A major demonstration last Sunday in Washington, DC, attended by over 10,000 people, brought the highly controversial Keystone XL pipeline in the national limelight. The Keystone XL project is a 1,711-mile, 7 billion dollar pipeline carrying unrefined Canadian tar sands crude oil that will run across the heartland of the US.

As USC students studying various majors - from engineering to business to physical and social sciences - enrolled in the Technology and Environment Freshman Seminar class, we aim to provide a scholarly, unbiased and neutral evaluation of this project after studying almost all of the publicly available reports from mainstream media and reliable sources. For a complete copy of our study, including references, please visit http://www-bcf.usc.edu/~meshkati/.

In our opinion, there are several main considerations that should be further studied. These represent additional “homework” for policy makers. Before issuing the construction permit for the pipeline, they should find answers to the still vexing, lingering problems concerning the economic costs and benefits, the environmental safety and health impacts, and the national and energy security considerations.

Economic Impact

At this point, the economic impact of the pipeline is not fully understood. On one hand, supporters and TransCanada, the builders of the pipeline, claim that the pipeline will create 20,000 jobs and pump $7 billion dollars into the US job market. However, an independent investigation by Cornell University states that only $4 billion will go towards the US job market and the State Department estimates 2,500 to 4,650 jobs will be created.

But are the possible economic benefits of the pipeline worth the financial costs and risks?

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1 Ian Beck, Troy Cardona, Kevin Chan, Zachary Chen, Kenny Fan, Michael Goulis, Derek Horner, Jiashu Li, Amy Nham, Chiara Nosse, Steven Petrovich, Evan Pye, Yue (Joyce) Ren, Eugene Shin, Tao Wu, Bronte Yang, Peter Zhang, and Jordan Raffo. The Freshman Seminar on Technology and Environment has been developed and taught every fall semester by Professor Najmedin Meshkati of the Viterbi School of Engineering, USC.
Creation of the pipeline, according to TransCanada spokesman, Terry Cunha, could increase the price per barrel of crude oil from Canada by $3. While supporters say that this won’t increase the prices at the pump, opponents disagree, saying that the consumer could ultimately be hurt.

**Environmental, Safety and Health Impact**

The Department of State posted an Environmental Impact Statement (EIS) regarding this matter in August, but it failed to address many key concerns adequately. Also, there were numerous conflicts between the EIS and TransCanada’s description of the project. While TransCanada has agreed to take various preventative measures that aim to mitigate environmental impact, the EIS has not provided enough details as to how these compliances will be enforced. Until these problems are answered, we find it difficult to validate the feasibility of this project.

Furthermore, a spill from the pipeline poses as a serious risk to the health of the surrounding population and ecosystem. In the case of a spill, oil and other toxic contaminants could seep in the Ogallala Aquifer, the major underground source of water for the Midwest, harming the residential communities and local agriculture. Residents would also be negatively affected by the spill. Often, runoff from mining can release toxic metals and arsenic into the groundwater which can lead to an increase in cancer in the areas near the spill. Moreover, TransCanada’s role and financial responsibility in cleaning up a spill has yet to be defined.

**National and Energy Security Impact**

Although the pipeline would increase efficiency of distribution of oil resources inside the U.S., exporting the oil to other countries will not improve our overall energy security. Valero Energy Corporation plans to import gasoline and oil from a refinery in the United Kingdom, while the tar sands oil from the Keystone XL pipeline will be refined into diesel and exported.

In addition, the pipeline could become a 1700-mile long sitting duck that could be targeted by terrorists. According to the Director of the Institute for the Analysis of Global Security, “pipeline sabotage is becoming a ‘weapon of choice’ for insurgents in Iraq.”

In light of the above unanswered questions and discrepancies, the US public should expect its policy makers to follow what every good college student knows: be smart, do you homework before taking the final.