

The Gas Pipeline Debate: Is there a Place for Science?

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The impending construction of thousands of miles of natural gas pipelines in Pennsylvania is a hot topic of conversation and media coverage. As with mostly everything relating to energy, two viewpoints have emerged. Many people maintain that gas pipelines are necessary, safe, and cost-effective. Others view new pipelines as unnecessary, dangerous, and depriving landowners hosting pipeline rights-of-way the full use of their land. Resolving these competing viewpoints is a vexing challenge.

Recently, I was appointed to Governor Wolf's Pennsylvania Infrastructure Task Force. As a scientist and educator, I intend to advocate for science in application to policy development, and clear communication as the group carries out its mission.

Last week, I had an email interaction with a friend who stated "It's not all about science." After some thought, I agreed. But science has to be a part of it.

Clearly, good science can resolve some issues relating to pipeline placement, construction, and maintenance. Examples would be impacts to land and water, health and safety risks, and emissions of methane and other chemicals that cause air pollution and climate change. To that end, scientists can research the problem, publish their findings, and ultimately inform agency officials, industry, and interested members of the public. Science plays a key role in developing and evaluating best management practices for construction and maintenance.

Of course, that process needs to overcome several hurdles in order to work. First, getting funding to perform the research is often difficult. Second, relevant data on certain parameters (like groundwater quality) already exist, but are not accessible due to non-disclosure agreements between companies and homeowners. Third, the public or industry often rejects scientific research that is inconsistent with one's world-view on pipelines.

But recent interactions with property owners reminded me that science cannot cover all issues associated with pipelines. For example many people in proposed rights of way have emotional attachment to their properties. In some cases, the property has been used a certain way for generations that the current occupants want to maintain. Or others might have bought a property to be kept as a forest, or for subdivision into building lots. Pipeline rights of way are inconsistent with those uses. Others are bothered by the aesthetics of pipelines. Science does not seem to be able to address those issues – which are more values oriented.

Nonetheless, I argue that science should have a role in those facets of pipeline development where data can inform our understanding of impacts and improving best practice techniques. To that end, I make five recommendations: (1) data collection should be more universal on pipeline projects, especially to evaluate impacts on air, land, water, and human health, (2) some funding should be made to academic scientists (as opposed to consultants) to design and conduct studies that will further improve pipeline safety and reduce environmental damage, (3) recognizing privacy concerns, data collected by industry should be made more available – at least to the scientific community, (4) scientists should better engage with residents to monitor local streams, forests, and air near pipelines, and share those data, and (5) data not subject to non-disclosure agreements should be made available in an understandable format to everybody, especially through the internet.

So while science may not address all issues relating to pipeline development, it certainly has a role in evaluating many of our concerns. Hopefully, more thorough data collection and sharing in an understandable format will serve as at least a partial antidote to the statewide debates now raging on pipeline development.

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