The Impact of Marcellus Shale: What Do the Economic Impact Studies Imply? Timothy Kelsey MS Educational Webinar March 18, 2010

Questions and Answers

A. Questions NOT Answered (3)

1. Are the communities of the Barnett Region planning for what will happen when the resource runs out? Follow up... how different are that state's regulations of the industry and the impacts?

I do not know to what extent those communities are planning for after the resource runs out. The state's regulations are very different than Pennsylvania's, as is the environment, geography, and infrastructure. Among the bigger differences is that the Texas Railroad Commission has major authority regulating natural gas development in Texas, so much of the regulatory power is consolidated in one agency. In Pennsylvania, the authority is divided between the Dept —of Environmental Protection, Susquehanna River Basin Commission, Delaware River Basin Commission, and other entities; and that specific authority varies depending upon in which watershed the activity is occurring.

In addition, tax treatment of natural gas is very different in Texas. In addition to having a state severance tax, Texas law makes natural gas subject to local municipal and school district property taxes, and thus local jurisdictions with gas development in Texas receive substantial local tax dollars to help pay for any negative local impacts from gas development. Since the real property tax dollars go to the jurisdiction where the impacts are occurring, there is not concern that the dollars will be diverted to other areas of the state. There is clear local control of those dollars. The amount of these local tax dollars is very clear in the Perryman reports. In contrast, Pennsylvania currently has no state severance tax, and (unlike coal, limestone, or other resources extracted from underground in Pennsylvania) natural gas and oil in the Commonwealth currently are exempt from local property taxes.

2. How long will the PA economy be sustained with the Marcellus activity?

No one knows for sure, since it depends upon what happens with natural gas prices, market conditions, the pace of drilling activity in the Commonwealth, how long each Marcellus well remains productive, and many other factors. A good guess would be 15 to 25 years for the drilling activity itself (and longer, if the drilling pace is slow), and 50+ years for the royalty income.

It is also important to realize that Marcellus is only one of several shales in Pennsylvania with natural gas development potential. Once pipelines and other infrastructure are in

place for developing Marcellus, exploration and development of these other shales becomes much more economical. So there is the potential that significant drilling activity could continue even once Marcellus is fully developed, extending the economic impacts from drilling even further into the future.

3. Is there any analyses of the economics of tourism long-term affect, after the drilling phase is over and even after the gas extraction & reclamation are over?

Not that I'm aware of. This is a significant question that requires study and careful thought, but I don't believe we have enough information yet to answer it. One of the most important unanswered questions is how drilling may affect tourists' willingness or interest in visiting drilled areas once that drilling has occurred—without knowing that, it is very difficult to make any estimates about the economic impacts of tourism, since the number of visitors critically influences the economics.

A much related uncertainty is what the landscape, streams, and other natural resources will look like once gas development has fully occurred. We can clearly see current instances where the natural resources are being negatively affected, such as in Dimock. But what I haven't seen yet from the environmental scientists is how prevalent such negative impacts will be – will these just be isolated incidents, and in most places where drilling occurs there will be minimal natural resource impact? Will everywhere become like that? How much forest fragmentation will occur, and how will that change the view shed, wildlife, water quality, etc? And thus how might these changes affect tourism?

To be able to predict long-term impacts on tourism, economists need answers about these issues from other scientific disciplines. Those answers also very materially will affect other things within the community, such as quality of life, health and safety, economic opportunities for the community, the quality of natural resources, etc. So are critical to address and understand.