



Forum explores effects of shale development on atmosphere

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By Tiffany Wang

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UH Energy hosts its symposium series four times annually by inviting leading experts in academia and industry to participate in a panel discussion. | Tiffany Wang/The Cougar

Six energy researchers gathered at UH on Tuesday to discuss shale development in Texas as part of UH Energy's ongoing 2016-2017 Energy Symposium Series, which examines critical issues in energy and possible solutions.

Titled "Shale Development in Texas: Six Degrees of Consideration," the symposium took place in the Student Center South's Houston Room, where panelists discussed the land, air, water, seismic, transportation and socioeconomic impacts of shale development.

The speakers included David Allen, the Melvin H. Gertz Regents Chair in chemical engineering at the University of Texas at Austin, John Barton, professor of practice in the Department of Civil Engineering at Texas A&M University, Brian Stump, Albritton professor of earth sciences at Southern Methodist University, Melinda Taylor, executive director of the Kay Bailey Hutchison Center for Energy, Law and Business at the UT Austin's School of Law, Gene Theodori, sociology professor at Sam Houston State University and Michael Young, senior research scientist and associate director for the environment division of UT Austin's Bureau of Economic Geology.

All of Tuesday's panelists are members of the Academy of Medicine, Engineering and Science of Texas. Christine Ehlig-Economides, a UH petroleum engineering professor, moderated the panel.

Each speaker gave a short talk on their respective fields, starting with Stump who linked shale development and seismic activity. He said that the number of earthquakes have increased in Texas from 2005 to 2008 in relation to wastewater injection and not fracking.

Allen spoke about the impacts of shale development on breathing air. He talked about the leak rates of natural gas wells and the concept of "super emitters," which are a small number of leaks responsible for most of the total amount of escaped methane.

"A small subset of the sources dominate the emissions," Allen said. "And you all, whether you know it or not, experience super emitters. Two percent of the sites give us more than half of the emissions."

Allen said that organizations are developing federal regulations and testing new sensing technologies.

Taylor, the leader of the land group in TAMEST's shale study, said that there are few studies available on land impacts, and more data is needed despite the extensive presence of oil and gas development in Texas.

"It's sort of helpful when you're talking about land resources to remind yourself of that fact," Taylor said. "Oil and gas is produced in 215 of our 254 counties, so, in almost every county in Texas, there's oil and gas development going on."

Young talked about water impacts with the message that the oil slump has allowed researchers to catch up and will be better-prepared when prices bounce back.

Barton had a similar memorandum, saying that the drilling slowdown has given traffic planners a chance to catch up on draining and flooding concerns as well.

The last presentation from Theodori covered socioeconomic impacts on the Texan community. He found a paradox when researching with his colleagues on the topic.

"The general population tends to distrust the intrusion of the gas industry and dislike certain social and/or environmental problematic issues that they perceive to accompany the development," Theodori said. "Yet, at the same time, they appreciate it and welcome the economic and service-related benefits that come with the industry."

The panel concluded with a Q&A and closing remarks from Radha Radhakrishnan, the managing director of UH Energy.

The next symposium in this series will take place on February 15, 2017 and is titled "Going Nuclear: Risk, Odds, and Potential."

Tags: Energy Symposium Series, shale, UH energy, University of Houston

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