

Tuesday, January 17, 2012

Crowne Plaza Hotel - Greenspoint (former Sofitel)  
425 North Sam Houston Pkwy E

Social 11:15 AM, Luncheon 11:30 AM

**Cost: \$31 pre-registered members; \$35 for non-members & walk-ups.**

**To guarantee a seat, you must pre-register on the HGS website and pre-pay with a credit card.**

**Pre-registration without payment will not be accepted.**

**You may still walk up and pay at the door, if extra seats are available.**

## HGS Northsiders Luncheon Meeting

*J.-P. Nicot*

*The University of Texas at Austin,  
Bureau of Economic Geology*

HGS Northsiders Luncheon Meeting

### Water Demand in Texas Shale Plays

Shale-gas production that applies hydraulic fracturing in mostly horizontal wells has resulted in considerable controversy over water-resource impacts. The objective of a recent study was to quantify water demand for shale-gas production in Texas. The state is the major producer of shale gas in the U.S. with three major plays — the Barnett Shale with 14,900 wells as of mid-2011, the Haynesville Shale with 390 wells in Texas, and the Eagle Ford Shale with 1,040 wells. Past water use was estimated from well-completion data; future water use was extrapolated from past water use constrained by shale-gas resources. Cumulative water use in the Barnett totaled 117,000 acre-feet (AF) from 2000 to mid-2011. Water use in the Barnett in 2010 represented ~9% of water use in Dallas. Water use in more recent 2008 – mid-2011 plays, although less at first — 5,300 AF in the Texas section of the Haynesville, and

14,600 AF in the Eagle Ford — is increasing rapidly. Although water use for shale gas is <1% of statewide water withdrawals, local impacts vary with water availability and with competing demands. Projections of cumulative water consumption during the next 50 years total ~3,500,000 AF; consumption would peak in the mid-2020s at 120,000 AF and decrease in 2060 to 19,000 AF. Current freshwater use may shift to brackish water to reduce competition with other users. This presentation will give an overview of the methodology used in the study and discuss the impact of hydrocarbon production from shales on various aquifers. ■

#### Biographical Sketch

J.-P. NICOT is a geological engineer and research scientist at the Bureau of Economic Geology, The University of Texas at Austin. He holds a Master's degree in geological sciences and a Doctorate in Civil Engineering, both from The University of Texas at Austin. He has been working on environmental issues for more two decades. Dr. Nicot's current research interests center around



water resources and the impact of human activity on water amount and quality. Specific topics are diverse and include assessment of water use in the shale gas industry, brackish water characterization, natural contamination of aquifers, and potential risks of CO<sub>2</sub> storage to aquifers are other related topics of interest.