

# Environmental Health

**ABOUT THE COVER**



The November cover article, “An Assessment of Life Cycle Greenhouse Gas Emissions Associated With the Use of Water, Sand, and Chemicals in Shale Gas Production of

Pennsylvania Marcellus Shale,” focuses on upstream impacts of hydraulic fracturing for natural gas. The authors used real-world field data to assess life cycle greenhouse gas emissions associated with the production and transportation of chemicals and sand mining used in the process. The findings focus attention on large greenhouse gas emission sources that historically have had a high degree of uncertainty.

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