

RPSEA PROJECT: Reducing the Environmental Impact of Gas Shale Development



THREE-YEAR PROJECT

\$3.5M FROM RPSEA, \$900K IN COST SHARE

RESEARCH FOCUS ON THREE KEY ENVIRONMENTAL ISSUES:

- **Groundwater Quality /Stray Gas Monitoring**
- **Air Emissions**
- **Produced Water Treatment/ Disposal**

OBJECTIVE:

Develop practical methods for characterizing water quality, air emissions, and produced water

GROUNDWATER QUALITY/ STRAY GAS:

Better Evaluation Methods

- **Sampling Method:** What methods minimize variability and best reflect true water quality?
- **Analyte List:** What are the key indicator parameters?
- **Natural Variability:** Can we use statistics to evaluate whether changes in water geochemistry reflect natural vs. induced variability?



GOAL: Better methods = better detection & protection at lower cost

AIR EMISSIONS/ PRODUCED WATER: *Improved Characterization*

Air Emissions:

What methods accurately characterize volatile air emissions from frac ponds to better assess extent and magnitude of exposure?

Dr. Susan Stuver; Institute of Renewable Natural Resources (IRNR)

Produced Water Treatment/ Reuse/ Disposal:

Which real-time methods can be used to characterize produced water for better treatment, reuse, or disposal?

Dave Burnett; Global Petroleum Research Institute (GPRI)



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