



# SHALE GAS INFRASTRUCTURE

## *Fact Sheet*

### Infrastructure Associated With Shale Gas Development

### Potential Impacts of Infrastructure Development

### Regulations and Safeguards in Place

## INFRASTRUCTURE

- Infrastructure issues associated with shale gas development may include new roads and electric transmission lines; compressors and pipelines; water storage and disposal facilities; and associated equipment.
- Water is used both for drilling operations and for hydraulic fracturing of wells (see Hydraulic Fracturing Fact Sheet).
- Water, often containing additives, is typically pumped out of a well after fracturing and may also be produced along with natural gas. “Produced water” often contains salts and other substances that originated in the shale.

## IMPACTS

- Infrastructure development often raises concerns over changes in land use, particularly in areas with little or no historic oil or gas activity.
- The construction phase in particular can involve temporary disturbance of the land and use of heavy equipment, along with noise, dust, and traffic.
- Improper construction and use of infrastructure can result in environmental impacts such as leaks, spills, and soil erosion.
- Water use, particularly when volumes are large relative to the supply, can compete with other water demands.

## REGULATIONS AND SAFEGUARDS

- Federal, state, and local governmental entities regulate various aspects of infrastructure development.
- Effective regulations are in place to protect against environmental damage from spills, leaks, and soil erosion.
- Either a state agency or the US Environmental Protection Agency, or both, regulate water disposal wells.
- States also regulate discharges to groundwater and surface water to assure that water quality is protected.
- Depending on the volumes of water used and the availability of water sources, a state agency may regulate the withdrawal of water to conserve and protect water resources.
- Many states encourage reuse or recycling of water used in oil and gas operations. Some states prefer disposal of fracturing and produced waters and all regulate disposal activities.
- Conflicts over land use usually involve property rights issues that must be resolved between the parties. However, states set well spacing and location criteria that limit impacts by addressing the number of wells that can be drilled and requiring wells and associated infrastructure to be located so as to reduce conflicts with alternative land uses.