

**Workshop Participant Recommendations for Potential Impacts that Should be the  
Subject of Scientific Research \***  
**Special Scientific Committee on Unconventional Oil and Gas Development**  
**June 10, 2014 Workshop Summary**

Potential Impacts: Human Health	Potential Impacts: Social-Community
Air quality impacts from increased traffic that are associated with short-term exposures to which chronic exposure standards are not applicable	Communication of what is being done to improve oil and gas development for the purpose of reducing impacts (e.g., green completions)
Noise from a number of sources (e.g., pressure relief valves, compressor stations emitting low level constant noise, truck traffic)	Life cycle analysis of hydraulic fracturing and whether use of this technology leads to greater use of natural gas
Ultrafine particles from diesel and potential link to disease	Costs and benefits of changes in job availability and property values
Worker exposure to chemicals (e.g., benzene, silica), flowback and produced water, and other waste materials	Financial loss from accidents, injuries, missed work time, and property loss
Worker fatalities	Public perception issues
Silica exposure for nearby residents and school occupants and the potential for chronic effects	Effects associated with influx of workers from outside the community (e.g., rising rent levels)
Stress associated with community fragmentation	Community members not receiving what they were promised, resulting in a lack of trust
Composition, transport, and tracking of liquid waste and worker and community exposure to these wastes	Need for implementation of regulations by state and federal authorities
Contaminated worker clothing/other unintended exposures	Need for community engagement in research
Potential radiation exposure; radioactivity in gas distribution lines to homes (if it exists)	Need vigilance and a better reporting system for spills and accidents
Quality of life	Disparity in royalties and cash incentives among community members, leading to community fragmentation
A range of health effects attributed to oil and gas operations (e.g., rash, metallic taste in the mouth)	<b>Potential Impacts: Ecological-Environmental</b>
Life cycle assessment of natural gas versus coal with respect to human health	Health of macroinvertebrates and the seasonal and spatial variation of impacts
Increased rates of sexually transmitted diseases and violence with influx of workers	Ensuring that solid waste is disposed of in an appropriate landfill or other disposal facility
Lack of coordination among regulatory authorities regarding information about emissions, concentrations, exposures, and effects associated with oil and gas development	Spills and leaks from holding ponds and other sources that contaminate rivers, streams, and other water resources
Possible odor from drilling operation	Induced seismic activity
Dermatological, gastrointestinal tract, and respiratory tract issues	Emission variability among phases of oil and gas development
Health disparities by income level; The link between socioeconomic status and health	Baseline aquifer quality data and effects on drinking water quality sourced from groundwater
Lack of knowledge about emergency response	Insufficient groundwater quality data
Impacts on children	Surface water quality impacts and their seasonal variability
Legacy risk after well closure and management of risk	Farm and domestic animal health and welfare
	How to reduce impacts of habitat fragmentation

**\* The HEI Committee has reached no conclusions at this time; therefore, nothing said at the workshop or included in documentation from the workshop, including this table, should be interpreted as a finding or a conclusion of the Committee. Findings from the Committee's work will be discussed at future workshops.**