

What Have We Learned from this Workshop? . . .Priorities for Further Study

May 31, 2013 (for 3:15 Discussion)

1. Have we identified major concerns about risks and our ability to control them?
. . . any key concerns omitted?
2. What are the priorities for further research, data collection and analysis

Risks		State of Scientific Understanding?	Methods and Procedures Available to Address Risks?	Priority for Further Data and Studies
		<i>Low/Med/High</i>	<i>Yes/No</i>	<i>High?</i>
Operational	Design, construction quality control			
	Mishap detection & response			
	Site preparation, road and traffic conditions/emissions			
	Emissions monitoring air/water			
	Induced seismicity			
Water	Withdrawals quantity/transport			
	Well leakage to gw water supply contamination			
	Return flow reuse, transport, treatment, disposal			
Air	Local air toxics			
	Regional ozone & PM precursors			
	Global methane			

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Global Climate	Routine emissions & leakage of methane and other GHGs			
	Traffic, supply chain, life cycle CO2			
	Fuel substitution, energy use			
	Legacy well leakage			
Ecological	Habitat disruption connectivity			
	Air and water toxicity			
	Invasive species			
	Restoration planning			
Human Health	Air inhalation			
	Water ingestion			
	Stress			
	Exposure and health monitoring			
Community/ Social	Economic boom-bust impacts, rapid industrialization			
	Impact on existing local industries (ag, tourism, etc.)			
	Rural ambiance, quality of life, stress impacts			
	Unequal costs and benefits			
	Loss of community trust, corrosive communities, stigma disinvestment			