Hand Outs Debunking Health Myths

Pouné Saberi, MD, MPH December 8, 2012 July 20, 2012 SWPA-EHP Workshop "Health Concerns in the Era of Gas Drilling: A Basic Toolkit for Healthcare Providers. Health Concerns in the Era of Gas Drilling."

Sources of Air Emissions from Natural Gas Activities

	Fugitive Emissions	Dehydration	Vehicles/ Engines	Flaring	Pits
Particulate Matter		Х	Х		
Hydrogen Sulfide	Х			Х	
Ozone	0	0	0		
СО			Х	Х	
NOx			Х	Х	
SO2			Х	Х	
VOCS	Х	Х	Х	Х	Х
BTEX	Х	Х	Х	Х	Х
Methane	Х	Х			Х
NORMs	Х	Х			х

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Recognized Health Effects of Air Emissions from Natural Gas Activities

	Pulmonary	Neurologic	Reproductive	Dermal	Hematologic
Particulate Matter	Х			Х	
Hydrogen Sulfide	Х	Х		Х	
Ozone	0				
СО		Х	Х		
NOx	Х				
SO2	Х				
VOCS	Х	Х	Х	Х	Х
BTEX	Х	Х	Х	Х	Х
Methane					
NORMs			Х	Х	Х

- Unconventional Gas Extraction-Part 1 Threats to the Environment By Leslie Walleigh, MD, MPH; NECOEM Reporter Volume 2 Issue 35
- M. Bamberger and R.E. Oswald, "Impacts of Gas Drilling on Human and Animal Health," *New Solutions, A Journal of Environmental and Occupational Health Policy* 22(1) (2012): 55-77
- Witter et. al. (2010). *Health Impact Assessment for Battlement Mesa, Garfield County Colorado*. University of Colorado Denver, Colorado School of Public Health, Denver, Colorado. Retrieved from: <u>http://www.garfield-county.com/</u>
- Colburn, T. et al., <u>Natural Gas Operations from a Public Health Perspective</u>. <u>Human and Ecological Risk Assessment: An</u> <u>International Journal</u>. Vol. 17, Iss. 5, 2011https://mail.uphs.upenn.edu/exchweb/bin/redir.asp?URL=http://ehp03.niehs.nih.gov/article/info:doi/10.1289/e hp.1104594
- Bernard D. Goldstein, Jill Kriesky, Barbara Pavliakov "Missing from the Table: Role of the Environmental Public Health Community in Governmental Advisory Commissions Related to Marcellus Shale Drilling" EHP <u>http://ehp03.niehs.nih.gov/article/info:doi/10.1289/ehp.1104594</u>
- Stephen G. Osborn, Avner Vengosh, Nathaniel R. Warner, and Robert B. Jackson, Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing Center on Global Change, Nicholas School of the Environment, Division of Earth and Ocean Sciences, Nicholas School of the Environment, and Biology Department, Duke University, Durham, NC 27708
- Robert W. Howarth · Renee Santoro · Anthony Ingraffea "Methane and the greenhouse-gas footprint of natural gas from shale formations" Climatic Change 12 November 2010 13 March 2011
- Lisa M. McKenzie, et al., "Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources," *Science of the Total Environment* 424(2012): 79-87, <u>10.1016/j.scitotenv.2012.02.018</u>.
- D. C. DiGiulio, R. T. Wilkin and C. Miller, "Investigation of Ground Water Contamination near Pavillion, Wyoming," 2011, http://www.epa.gov/region8/superfund/wy/pavillion/EPA_ReportOnPavillion_Dec-8-2011.pdf (accessed October 22, 2012)
- OSHA NIOSH, "Hazard Alert for Worker Exposure to Silica During Hydraulic Fracturing," 2012, www.osha.gov/dts/hazardalerts/hydraulic frac hazard alert.html (accessed October 22, 2012)
- Water Pollution Risk Associated with Natural Gas Extraction from the Marcellus Shale." Daniel J. Rozell and Sheldon J. Reaven, <u>Risk Analysis</u>, 2011 Using probability analysis, assessed risk of water contamination from Marcellus Shale drilling. Determined that there was substantial potential risk primarily related to wastewater management
- " 'It's like we're losing our love': Documenting and Evaluating Social Change in Bradford County PA during the Marcellus Shale Gas Boom (2009-11)" Simona Perry, PhD, research scientist, Rensselaer Polytechnic Institute<u>http://mediasite.cidde.pitt.edu/mediasite/SilverlightPlayer/Default.aspx?peid=689293c50f404f12b8c628b8f228578</u> 0
- Gas Patch Roulette: How Shale Gas Development Risks Public Health in Pennsylvania: http://www.earthworksaction.org/media/detail/new_research_links_health_problems_with_oil_and_natural_gas_develop ment#.UMlug-Oe-2s