



APRIL 17, 2018

The Honorable Ryan Zinke
Secretary
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240

Attention: RIN 1004-AE53

Dear Secretary Zinke,

As representatives of the medical and public health community, and on behalf of the hundreds of thousands of people we speak for and protect, our organizations appreciate the opportunity to comment on the U.S. Department of the Interior Bureau of Land Management (BLM)'s proposal to revise the Methane and Waste Prevention rule (methane rule).

The methane rule as written protects health by reducing methane pollution as well as the release of volatile organic compounds and other dangerous gases. The rule also reduces waste of natural gas produced on the nation's federal and tribal lands. To weaken that rule would expose U.S. families to more smog pollution and harmful air pollutants, increase dangerously the buildup of heat in the atmosphere, and waste tens of millions of taxpayer dollars.¹

Methane Leaks and Air Pollutants

Natural gas leaks expose nearby communities to toxic chemicals associated with dangerous health impacts including respiratory disease and congenital heart defects. Over 74,000 people live within a half-mile of an oil or gas facility on public lands – a figure that significantly undercounts the number of people who will be helped by the methane rule because it does not count tribal lands.

¹ Bureau of Land Management. *Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements*
<https://www.blm.gov/sites/blm.gov/files/Proposed%20Waste%20Prevention%20Rule%202.12.18.pdf>

Various gaseous substances escape into the atmosphere with methane. Among them, Volatile Organic Compounds (VOCs) and air toxics are of particular concern due to their effects on health. VOCs emitted from oil and gas operations include carcinogens such as benzene² and formaldehyde;³ toluene,⁴ associated with mental disabilities and abnormal growth in children, as well as damage to the kidney, liver, and immune and reproductive systems; and xylene,⁵ which can affect the nervous system, kidneys, lungs and heart. VOCs also contribute to ground-level ozone, a pollutant that can reduce lung function and worsen bronchitis, emphysema and asthma. Exposure to ground-level ozone can cause irreversible damage to the lungs and significantly increase the chance of premature death.⁶ VOCs and ozone pollution have been detected at dangerous levels at fracking sites, even in rural areas not usually associated with air pollution.⁷

Peer-reviewed scientific research on the health effects of fracking for natural gas and oil now demonstrates not only health *risks* from fracking, but associations between proximity to fracking and poor health *outcomes*. Robust documentation shows that proximity to fracking operations is associated with congenital heart defects, increased risk of high-risk pregnancy and premature birth, worsening asthma, and increased rates of hospitalization for cardiac, neurological and cancer-related problems. We cite here four recent studies, published in respected professional journals, that document those associations:

- A July 2016 study, published in the prestigious *Journal of the American Medical Association*, identified a statistical association between progressively worsening asthma symptoms and the patient's proximity to natural gas fracking operations.⁸
- A March 2016 study found that expectant mothers living in the most active fracking areas were at greater risk of having a high-risk pregnancy, and 40 percent more likely to

² World Health Organization. Exposure to Benzene: A Major Public Health Concern. <http://www.who.int/ipcs/features/benzene.pdf?ua=1>

³ Agency for Toxic Substances and Disease Registry. Toxic substances portal: Formaldehyde. Atlanta, GA: US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry; 2011. Available at <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=39>

⁴ Agency for Toxic Substances and Disease Registry. Toxic substances portal: Benzene. Atlanta, GA: US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry; 2011. Available at <http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=38&tid=14> http://www.epa.gov/oagps001/community/details/oil-gas_addl_info.html

⁵ "Outdoor Air – Industry, Business, and Home: Oil and Natural Gas Production –Additional Information." United States Environmental Protection Agency. 19 Mar 2014. https://archive.epa.gov/airquality/community/web/html/oil-gas_addl_info.html

⁶ Jerret, M. et al., "Long-Term Ozone Exposure and Mortality," *The New England Journal of Medicine*. 360:1085-95 (2009).

⁷ Koch, W., "Wyoming's smog exceeds Los Angeles' due to gas drilling," *USA Today*. 9 March 2011.

⁸ Rasmussen, SG, et al (September 2016). Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations. *Journal of the American Medical Association*. JAMA Intern Med. 2016;176(9):1334-1343. doi:10.1001/jamainternmed.2016.2436

give birth prematurely.⁹ Preterm birth and low birth weight are leading causes of infant death in the U.S.

- A 2015 study by University of Pennsylvania and Columbia University researchers published in the journal *PLoS One* found that residing near gas or oil fracking sites in Pennsylvania was associated with increased rates of hospitalization for cardiac, neurological, urological, cancer-related, and skin-related problems. This study compared outcomes in counties with gas and oil wells against a control county where there were no wells; in the communities with the most wells, the rate of cardiac hospitalizations was 27 percent higher than in the control county.¹⁰
- A 2014 study looked at almost 25,000 births in rural Colorado. The study found that the prevalence of congenital heart defects in newborns increased with exposure, specifically higher density of and greater proximity to natural gas wells within a 10-mile radius of the mother's residence.¹¹

Methane and Climate Change

Methane is known to be a highly potent greenhouse gas, 86 times more powerful at trapping heat than carbon dioxide when considered over a 20-year timeframe. As it leaks from fracking wells, pipelines and compressor stations, methane accelerates global warming. In so doing, it contributes to the harm to health associated with climate change in the U.S. today. The American people already face increased health risks associated with climate change due to intense storms, heat waves, worsened air quality, flooding, sea surges, spread of insect-borne diseases, extended allergy seasons, and more.

Across the United States, close to 58,000 wildfires burned more than 9.2 million acres in 2017¹², making the air in many communities too dangerous to breathe.¹³ Last year is now second only to 2015 as the worst wildfire season on record. Human-caused climate change is increasing the frequency and size of wildfires for much of the United States.¹⁴ Last year was also an extreme year for hurricanes, which devastated communities across the U.S. Hurricanes Harvey and Irma are estimated to have caused \$200 billion in damage.¹⁵ We still do not have a definitive count of the deaths that resulted from Maria's destructive path through Puerto Rico, but the storm

⁹ Casey J.A. et al. "[Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA.](#)" *Epidemiology*, Volume 27, Issue 2. March 2016.

¹⁰ Jemielita T. et al, 2015. Unconventional gas and oil drilling is associated with increased hospital utilization rates. *PLoS ONE* 10, e0131093. doi: 10.1371/journal. Pone.131093.

¹¹ McKenzie, L. M., et al. (2014). Birth outcomes and maternal residential proximity to natural gas development in rural Colorado. *Environmental Health Perspectives*, 122, 412-417. doi: 10.1289/ehp.1306722

¹² National Interagency Fire Center. <https://www.nifc.gov/fireInfo/nfn.htm>

¹³ Miller, Casey and Umair Irfan. October 12, 2017. "Map: see where wildfires are causing record pollution in California." *VOX*. <https://www.vox.com/energy-and-environment/2017/9/12/16295246/wildfires-air-quality-map>

¹⁴ John T. Abatzoglou and A. Park Williams. Impact of anthropogenic climate change on wildfire across western US forests. *PNAS* 2016 113 (42) 11770-11775; published ahead of print October 10, 2016, doi:10.1073/pnas.1607171113. <http://www.pnas.org/content/113/42/11770.abstract>

¹⁵ Liesman, Steve. "Harvey and Irma economic hit could total \$200 billion: Moody's." September 11, 2017. *CNBC*. <https://www.cnbc.com/2017/09/11/harvey-and-irma-economic-hit-could-total-200-billion-moodys.html>

has been estimated to cost the U.S. close to \$95 billion.¹⁶ A scientific consensus exists that in a warming world, hurricanes will become more intense, carry more rain, and cause worse coastal flooding, linked in part to sea level rise.¹⁷

Due to tipping points in the climate system, the next 20 to 30 years will be decisive in determining the extent of climate change impacts. With air and ocean temperatures rising worldwide, we are in danger of surpassing the critical threshold of a greater than 2 degrees Celsius temperature increase. Once that happens, a cascade of harmful effects is anticipated that would inflict irreversible harm. Weakening methane protections will weaken the U.S.'s ability to control our climate emissions in the timeframe necessary to avoid the worst impacts of climate change.

Conclusion

Toxic gases emitted from oil and gas operations are responsible for serious damage to health. The continued leakage of methane, a potent greenhouse gas, jeopardizes world climate. For these reasons, the oil and gas industry should be required to take effective steps to prevent or capture emissions of methane and its co-pollutants from its operations.

The methane rule has broad support from the public as well as health professionals and public health professionals, local elected officials and members of Congress because of the tremendous health and economic benefits it will confer. Dismantling the methane waste rule is dangerous to health and counterproductive. Our organizations oppose the Department of the Interior's proposal to revise and essentially dismantle the BLM methane waste rule, and firmly urges you to reconsider that position.

Sincerely,

AMERICAN LUNG ASSOCIATION
AMERICAN PUBLIC HEALTH ASSOCIATION
ALLIANCE OF NURSES FOR HEALTHY ENVIRONMENTS
PHYSICIANS FOR SOCIAL RESPONSIBILITY

¹⁶ Disis, Jill. "Hurricane Maria could be a \$95 billion storm for Puerto Rico." September 28, 2017. CNN Money. <http://money.cnn.com/2017/09/28/news/economy/puerto-rico-hurricane-maria-damage-estimate/index.html>

¹⁷ IPCC Fourth Assessment Report: Climate Change 2007. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch10s10-3-6-3.html