

New York City Is NOT Protected!

Why New York City Needs a Statewide Ban on Fracking

Fact Sheet • November 2011

Horizontal drilling and hydraulic fracturing, or “fracking,” have enabled the oil and gas industry to extract natural gas from rock formations deep below ground, called shales.¹ Fracking entails injecting a large amount of water, sand and toxic chemicals at a pressure high enough to fracture the shale and release the natural gas.² The oil and gas industry now wants access to natural gas from the Marcellus and Utica shale formations underlying large regions of the State of New York.³

The New York State Department of Environmental Conservation’s (NYDEC) *Revised Draft Supplemental General Environmental Impact Statement (SGEIS)* recommends that shale gas development be banned from watersheds that provide high-quality drinking water to New York City.⁴ However, the report would allow for opening up large parts of the state to shale gas development. The Cuomo administration’s plans for fracking in the state would not protect New York City residents from the negative impacts that drilling and fracking for shale gas would have.

Allowing drilling and fracking for shale gas in the state will still jeopardize New York City’s air, water and food, and potentially accelerate global climate change, all in exchange for dubious economic benefits.

Fracking Would Increase Air Pollution in New York City, Not Just Create Pollution Near Shale Gas Wells

Shale gas development produces air pollution that could deteriorate New York City’s air quality. According to the NYDEC, each new shale gas well would require between 890 and 1,350 heavy-duty truckloads.⁵ Volatile organic compounds, including nitrogen oxides, benzene and toluene, are emitted during drilling and fracking.⁶ These compounds mix with emissions from heavy-duty truck traffic and large generators and compressors at well sites to form ground-level ozone that combines with particulate matter to form smog.⁷ Chronic exposure to smog has been linked to various cancers, heart disease, diabetes and premature deaths in adults, and to asthma, premature birth and cognitive deficits in children.⁸



In Wyoming, drilling and fracking have caused ground-level ozone pollution to exceed amounts recorded in Los Angeles, affecting the quality of life for Wyoming residents.⁹ Many people living near Wyoming’s shale gas wells have experienced nosebleeds lasting several days, chest pains, burning eyes and shortness of breath.¹⁰ In Texas, a hospital system serving six counties with intensive shale gas development reported asthma rates three times higher than the state’s average.¹¹ Yet ground-level ozone pollution from shale gas development is not just a local problem; it can be transported hundreds of miles by prevailing winds before combining with particulate matter to form smog.¹²

On days when the winds blow from the northwest, residents of New York City may soon breathe in toxic air pollution from shale gas development in the Southern Tier, in addition to air pollution from local sources. Asthma already is a serious public health problem in New York City, particularly among young children (see Tables 1 and 2), and given the regional air pollution that shale gas development would bring, allowing such development in the state could make breathing even more difficult for these children.

According to New York State's Department of Health, asthma-related emergency room visits in 2008 were two-and-a-half times more likely in the New York City region than in the rest of New York State, relative to population.¹³ (See Table 1.) On average, only 50 out of every 10,000 residents of the state outside of New York City's five-county region visited an emergency room due to asthma, while 125 out of every 10,000 residents of the New York City region did.¹⁴ Among children under the age of four, asthma-related emergency room visits were three times more likely, relative to population, in the New York City region compared to the rest of New York State.¹⁵ (See Table 2.)

Bronx County has the highest rate of asthma-related emergency room visits in the New York City region, almost five times the rate outside of the region; on average, 247 out of

every 10,000 Bronx residents visited an emergency room for asthma.¹⁶ (See Table 1.) Likewise, children under the age of four who live in the Bronx seek emergency room care for asthma more than five times more frequently than children of the same age group living outside of the New York City region.¹⁷ (See Table 2.)

If the Cuomo administration approves shale gas development in New York State, then air quality throughout the state is likely to worsen, resulting in statewide increases in the rate of asthma-related emergency room visits. This would be the case not just near gas wells but also in New York City. Young children will suffer disproportionately from these statewide increases in air pollution. (See Table 2.)

Fracking Would Threaten New York City's Drinking Water, Even with the Proposed Buffers Around the City's Watershed

The New York City watershed provides drinking water to 9 million New Yorkers.¹⁸ Most of this drinking water comes from the Catskill and Delaware watersheds and is of such high quality that, under an agreement with the U.S. Environmental Protection Agency and other stakeholders, filtration is not required.¹⁹ Contamination of these watersheds

Table 1. Asthma-related Emergency Room Visits and Total Population, 2008, in New York City Compared to the Rest of New York State

New York State	ER visits 2008	2008 population	ER visits for asthma, per 10,000 residents*
Outside of New York City region	55,842	11,126,587	50.2
New York City region	104,918	8,363,710	125.4
Bronx County	34,317	1,391,903	246.5

* 10,000* (2008 ER visits for asthma)/(respective 2008 population)

Source: New York State, Department of Health, Information on Asthma in New York State. "Asthma Emergency Department (ED) Visits, Rate per 10,000 Population, Total." Last revised July 2011. Accessed October 20, 2011 at www.health.state.ny.us/statistics/ny_asthma/ed/asthmaed6.htm.

Table 2. Asthma-related Emergency Room Visits and Population Under Age 4, 2008, in New York City Compared to the Rest of New York State

New York State	ER visits 2008, children ages 0-4	2008 population, ages 0-4	ER visits for asthma, per 10,000, ages 0-4*
Outside of New York City region	7,305	632,753	115.4
New York City region	18,522	575,742	321.7
Bronx County	6,521	109,991	592.9

* 10,000* (2008 ER visits for asthma)/(respective 2008 population)

Source: New York State, Department of Health, Information on Asthma in New York State. "Asthma Emergency Department (ED) Visits, Rate per 10,000 Population, Age 0-4." Last revised July 2011. Accessed October 20, 2011 at www.health.state.ny.us/statistics/ny_asthma/ed/asthmaed0.htm.

from shale gas development could end this agreement, and New York City has estimated that building a filtration plant would cost \$10 billion, plus another \$100 million annually in operating costs.²⁰ New York City residents cannot afford to bear this burden.

The New York DEC has recommended buffer zones of 4,000 feet from New York City's watershed boundaries and of 1,000 feet from New York City's water supply infrastructure²¹; however, these buffers are inadequate, and New York City's water resources would still be at risk. While the recommendation prohibits well pads to be sited within the watershed or the surrounding buffer zone,²² horizontal drilling and fracking can extend thousands of feet underground, beyond the 4,000-foot setback — which means fracking under the watershed would likely occur.²³

Up to 80 percent of the toxic fracking fluid injected stays underground indefinitely.²⁴ Over the coming years and decades, the toxic fracking fluid that remained underground would be subjected to geological forces that could cause it to flow far through a network of manmade fractures from fracking, pre-existing natural joints and fractures in layers of bedrock,²⁵ and the tens of thousands of abandoned oil and gas wells in New York.²⁶ For this reason, the proposed buffer does nothing to eliminate the long-term risks to the aquifers on which generations of New York City's residents will depend.

The potential for methane contamination also threatens New York City's water resources. A 2011 study of 68 water wells in Pennsylvania and New York found evidence of methane contamination in 51 of 60 drinking water wells (85 percent).²⁷ The study found methane contamination in water wells ranging between 1,500 and 3,300 feet from active drill sites.²⁸ These findings suggest that the proposed 4,000-foot buffer may be inadequate to protect New York City's vital water resources, since methane could conceivably migrate 700 feet farther than the 3,300 feet reported in this study of just a limited number of wells.

For instance, in 2004 in Colorado a faulty natural gas well casing led to leaking contaminants that traveled about 4,000 feet, polluting a local stream and groundwater with hazardous quantities of benzene, a known human carcinogen.²⁹ Seven years later, in 2011, groundwater-monitoring devices still identify toxic levels of benzene.³⁰ The 4,000-foot buffer around New York City's watersheds is likely insufficient to prevent methane contamination from the hundreds of shale gas wells that may be developed along the edge of the buffer.

Fracking Is Expected to Accelerate Climate Change, Exacerbating Threats to New York City

Because natural gas is a relatively clean-burning fossil fuel, it has been touted as a potential bridge fuel for addressing global climate change and transitioning to a future powered by low-carbon renewable energy re-

sources.³¹ However, recent studies have demonstrated that increased development of shale gas may actually accelerate climate change because large amounts of methane, a potent greenhouse gas that makes up 90 percent of shale gas, leak during fracking.³²

According to New York City's long-range sustainability plan, the city "has always faced climate risks including heat waves, snow storms, high winds, tropical storms, storm surges, lightning, and torrential downpours. These events affect every New Yorker, and as our climate changes, they will become more frequent and severe."³³ The expected rise in sea level due to climate change — up to one foot by 2050³⁴ — presents another enormous challenge that the city will have to address in the coming decades.

If recent studies prove correct, and if the Cuomo administration opens up New York State to shale gas development, then New York City will have to prepare to face these costly climate challenges even sooner.

Fracking Would Risk the Farms That Supply New York City with Fresh, Locally Grown Food

During a New York State Assembly public hearing on the health impacts of hydraulic fracturing, Dr. Sandra Steingraber noted, "Upstate New York is a national hotspot for organic agriculture. Cows, wheat fields, vineyards, maple syrup, and apple orchards, all of this is a part of our public health system. They're part of a healthy chain. And each of those crops requires clean water. They're all affected badly by exposure to air pollution."³⁵

Residents of New York City reap the benefits of New York State's rapidly growing movement toward sustainable agriculture, with farmers markets, community-supported agriculture shares, grocers and restaurants offering fresh, locally grown produce and food products. However, widespread drilling and fracking for shale gas threatens to bring this local New York food movement to a halt,³⁶ at the expense of New York's large agricultural sector.

In addition to crop damage from ground-level ozone,³⁷ streams and agricultural land can be tainted by spills and shale gas well blowouts, which spew thousands of gallons of toxic drilling fluids and wastewater.³⁸ In Tioga County, Pennsylvania, in 2010, a fracking wastewater storage pond leaked and spilled into a pasture where 28 beef cattle were grazing,³⁹ and the following spring, eight of the 11 calves born from the herd were stillborn.⁴⁰

It would be shortsighted to risk New York's thriving sustainable food movement, and thus risk all the value this movement brings to menus in New York City, by opening up the state to shale gas development. New York City needs New York State's agricultural sector to thrive.

Ban Fracking in New York State

- Even though the shale gas wells would be far from the New York City region, allowing the oil and gas industry to drill and frack for shale gas in New York State will still jeopardize New York City;
- Shale gas development would not just increase air pollution near shale gas wells, it would increase air pollution in New York City as well;
- Shale gas development still poses a threat to New York City's drinking water, despite the proposed buffers around the city's watershed;
- Shale gas development is expected to accelerate climate change, exacerbating threats to New York City; and
- Shale gas development would pose a risk to the farms that supply New York City residents with fresh, locally grown food.

To fully safeguard the state's public health and the environment, including the health and welfare of New York City's residents, Governor Cuomo should ban fracking in all of New York State.

Endnotes

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