

*WHEREAS, It is estimated that the geologic rock bed known as Marcellus Shale may contain up to several trillion cubic feet of natural gas, and dramatic increases in the price of crude oil and the corresponding need to reduce our nation's dependence on foreign oil have resulted in a tremendous increase in interest and activity relating to natural gas exploration and hydraulic fracturing;*

*WHEREAS, Cornell University is committed to environmental leadership exemplified by the signing of the American University and College Presidents Climate Commitment by President Skorton;*

*WHEREAS, Cornell University has a great responsibility to preserve and protect its natural resources, water resources, and quality of life for current and future Cornell faculty, staff and students;*

*WHEREAS, Cornell University is positioned to take a leadership role in the issue of hydraulic fracturing of the Marcellus Shale, sustainability education and research on water management, soil health as well as animal and human health and medicine;*

*THEREFORE, BE IT RESOLVED, that the Cornell Faculty Senate urges President David J. Skorton:*

- 1. To establish a committee of faculty, staff, students and alumni empowered with the decision of whether to lease any university-owned lands to natural gas drilling companies.*
- 2. To urge the New York State Department of Environmental Conservation to delay the issuance of permits for gas drilling until such time as New York State has completed all necessary and appropriate studies and has in place an adequately funded as well as staffed inspection and enforcement program.*
- 3. To urge New York State to enact a severance tax and adequate permit fees on gas drilling companies to pay the costs of regulation and oversight of drilling, and to mitigate the cost of repairing roadways and resolving environmental impacts due to drilling.*
- 4. To urge New York State to require that all chemicals (and specific formulations of those chemicals) intended to be introduced into wells be identified and the information be made public, with special notification to local emergency response personnel and health care providers, before use of such chemicals is permitted.*

## **Background.**

Gas production by hydraulic fracturing involves drilling 2,000 to 5,000 feet deep into the Marcellus Shale and then drilling as much as one mile, horizontally. Three to five million gallons of water laced with sand and 30,000 to 50,000 gallons of potentially toxic substances (approximately 1% of the total volume of water), including known carcinogens, endocrine disrupters, arsenic, hydrogen sulfide, mercury, benzene, toluene, xylene and formaldehyde, are then pumped into the well under very high pressure to fracture the shale and release the gas.

At least 65 of the chemicals currently in use are classified as hazardous under federal laws, but are not treated as hazardous during drilling and disposal because of gas industry exemptions to the Clean Water Act, the Environmental Response, Compensation, and Liability Act (CERCLA, also known as the Superfund law), the Resource Conservation and Recovery act, and the Safe Drinking Water Act. Companies can withhold all proprietary chemical formulations of the chemicals they use in the hydraulic fracturing process. Without complete proprietary information on every chemical used, it is impossible to test for contamination of

water supplies. Because compound-specific toxicity data are very limited for many chemical additives to fracturing fluids, it is of the utmost importance that studies on short and long-term health effects of such chemicals be done *before* the start of drilling, not afterwards.

Hydraulic fracturing fluids can be pumped under the homes and land of people who have not signed leases, as well as under natural areas and Cornell lands, if 60% of a designated land unit is leased (compulsory integration). The water (more per well than the City of Ithaca uses in a day) can be removed from local streams and ponds at no cost to the gas companies. The hydraulic fracturing fluid dissolves salts, radioactive material, and heavy metals (including lead, arsenic, and mercury) as it passes through the underground shale layers, so flowback from the well (essentially the same volume initially injected in the well) is more toxic than the hydraulic fracturing fluid. Once at the surface, it can accumulate as sediments in holding tanks and ponds.

To dispose of flowback fluid, gas companies may inject it deep underground and leave it, truck it to Pennsylvania, or have it treated and released locally. Current wastewater treatment facilities in the state are not able to deal with these high volume wastes without serious upgrading, and it is not even clear whether upgrading will enable them to remove these chemicals adequately. If those plants accept the water, they will have to establish testing and monitoring systems to ensure the discharges will not pollute neighboring bodies of water—Cayuga Lake, its inlet, reservoirs, surrounding creeks and streams.

Well pads, which may host one or many gas wells and are three to five acres or larger, are cleared, industrial areas with roads, drill rigs, pipelines, storage tanks, dozens of tanker trucks, buildings for workers, and holding pits for hydraulic fracturing fluids and drilling refuse. The holding pits attract wildlife and cattle (due to the salt) and can be lethal to birds and other wildlife that drink from them or are coated by the fluids. Pit liners may leak, pits may overflow, or fluids may be spilled, contaminating soil, surface water, and ground water. Hydraulic fracturing is the suspected source of impaired or polluted drinking water in Pennsylvania, Colorado, and Wyoming.

Drilling for gas is a highly industrial undertaking creating both air and noise pollution: numerous truckloads of equipment, chemicals, sand and water along with generators, pumps, drilling rigs and hoists, running at all hours of the day producing noise and exhaust fumes. For example, the hydraulic fracturing process for one well requires nearly 1,000 tanker truck trips to the site.

Given the important environmental issues associated with this new industrial process that will have a major impact on the University itself and the quality of life for students, faculty, staff and members of our community, it is essential that careful consideration be given to leasing Cornell land. Currently, studies are underway (funded by Cornell Cooperative Extension, the Cornell University Agricultural Experiment Station, and the Cornell Center for a Sustainable Future) to assess the environmental impact of natural gas drilling, but the results are not yet available. Furthermore, the commitment of the University to a sustainable future requires that it take a leadership role in New York State in this important issue.