

Response to the DEC's 2011 Draft SGEIS

By The League of Women Voters of Tompkins County, New York

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Our comments are based on the League of Women Voters of the United States (LWVUS) position that

"... natural resources should be managed as interrelated parts of life-supporting ecosystems. Resources should be conserved and protected to assure their future availability. Pollution of these resources should be controlled in order to preserve the physical, chemical and biological integrity of ecosystems and to protect public health." (Statement on Natural Resources, as Affirmed by the 1986 LWVUS Convention)

The New York State Department of Environmental Conservation (DEC) website states the following: "DEC was created on July 1, 1970 to combine in a single agency all state programs designed to protect and enhance the environment."

Mission: "To conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."

DEC's goal is to achieve this mission through the simultaneous pursuit of environmental quality, public health, economic prosperity and social well-being, including environmental justice and the empowerment of individuals to participate in environmental decisions that affect their lives.

In June 2010, at its national convention, the LWVUS passed with unanimous consent a resolution proposed by our Tompkins County League that calls for stronger regulation and enforcement of drilling and mining for energy resources. The Tompkins County League prepared this resolution for the convention in response to our serious concerns about High Volume Horizontal Hydraulic Fracturing for gas in shale. The LWV of Tompkins County recognizes that the DEC is in a difficult position since its stated and primary mission is to "conserve, improve and protect New York's natural resources and environment" in order to enhance the health, safety and welfare of New Yorkers, yet it has been charged with a subsidiary, conflicting role to pursue and permit the extraction and use of our natural resources, in this case, shale gas. We hope that the DEC will adhere to its primary stated mission by putting the long-term interest of the environment and people first.

It is generally accepted that the only reason for moving ahead with High Volume Hydraulic Fracturing (referred to here as HVHF or fracking) at this time is the prospect of economic gains. A professional, detailed and unbiased economic and sociological analysis must be at the foundation of any decision to allow this potentially damaging activity. We do not think that the economic arguments presented in section 6.8.4, with 9 pages (6-254 to 6-262) of data showing quantitative estimates of benefits and a single half-page paragraph (page 6-262) with only qualitative remarks concerning negative economic impacts provide an adequate basis for such a critical decision. In addition, the benefits calculated have been called into question by various

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economists who have looked at the estimates made by the USGS concerning the amount of recoverable gas (see 2c below).

We are pleased that a panel is currently looking at the costs associated with fracking and that they are taking the time to look closely at some of the factors. We are concerned, however, that it appears this work is being done by groups such as DOT and DOH in isolation from an overall analysis of the cumulative impacts. It is important that the calculations be done in the context of a thorough study of the economic and sociological impacts of drilling in its full life cycle, including a study of the complex issues of pace and scale, and the effect of the bust that will necessarily follow the boom. The panel must look at the negative impacts HVHF will likely have on parts of the current economic base of the region and may have on future development. Once a thorough analysis of the costs as well as benefits has been done, it must be made available for public comment so that the DEC can receive valuable feedback from experts who study these issues.

Although the bulk of our detailed analysis will focus on the economic and sociological impacts of drilling (a section of the dSGEIS we believe needs to be completely redone), we begin our comments with eight overriding concerns.

1. Drilling and mining activities necessarily lead to a boom/bust economy. As steward of New York's environment, it is incumbent upon the DEC to address the question: what will be left behind when the relatively short boom is over? The disturbingly brief 9-line dSGEIS answer, 6.8.3.3 *Cyclical Nature of the Gas Industry* (also on page 4-111 of the Energy and Environment Engineering report), concludes with: "The natural gas market can be volatile, with large swings in well development activity. Downswings may cause periods of temporary housing surplus, while upswings may exacerbate housing shortages within the regions." This critically important issue requires a careful and thorough analysis.
2. The DEC has not addressed the option of leaving the natural gas in the ground until a safe and dramatically less intrusive process for gas extraction can be found. No serious argument has been made that the state and its residents will come out ahead rather than behind economically both during and after the boom period. We ask why the DEC has not questioned this assumption.
3. The third paragraph, entitled *Permitting During the Environmental Review Process*, of a DEC summary of issues concerning the development of the Marcellus shale, outlines the procedure that would be involved in the review of permit applications received during the review process for the dSGEIS. <http://www.dec.ny.gov/energy/46288.html>. Any consideration of permit applications should follow, not precede, the development of a set of regulations, which in turn should follow the adoption of a final SGEIS which has received and incorporated comments from the public.
4. The DEC has determined that the process of HVHF for natural gas, considered in its full life cycle and with its accompanying activities, is not sufficiently safe for it to be done close to the watersheds providing water to New York City and Syracuse. It has determined that it is permissible, however, to go ahead in other regions of the state. This inconsistent application of the DEC's mission raises questions about its actions as they relate to protecting water sources of the residents living in areas over the Marcellus and Utica Shales that are not close to those two watersheds. (See 1 below.)
5. The new dSGEIS does not deal adequately with the issue of cumulative impact. The analysis throughout is done mainly on a well-by-well basis. Since several thousand wells will be drilled in each county and these wells will be accompanied by compressors, networks of pipelines and other features; the cumulative impact will far exceed the sum of the impact from individual wells.
6. The DEC has not significantly considered the need to control the pace and scale of any drilling that does occur. (See 2a, 2c, and 2m below).

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7. A meaningful study of the economic and sociological impacts of drilling is needed and should include consideration of the published findings of respected scientists (here we include economists and sociologists). As it stands, the study done by Ecology and Environment Engineering (hereafter referred to as E&E) does not give an objective analysis of the economic implications of the development of a gas extraction industry. For example, sections 2.4.11 and 6.8 of the dSGEIS, as well as the supplementary study of the economic and sociological impacts of drilling on which they are based, are significantly inadequate. They present an inflated quantitative analysis of the potential benefits of drilling by ignoring the USGS estimates of recoverable gas and by overstating the expected life of each well, and only brief mention, with no quantitative estimates, of the negative implications. The study by E&E notably does not include any citations of the relevant work done by faculty at Cornell University and other academic institutions. (See 2a-m below.)
8. The DEC should require that a severance tax be imposed to cover at least some of the expected expenses. Most states impose a severance tax on the extraction of mineral and fossil fuel resources and the industry is familiar with this. In general, without adequate up-front funding by the industry, municipalities will be required to levy additional taxes on their residents to cover road, infrastructure emergency response and other foreseeable expense items resulting from industry practices.

Some specific critiques:

1. If HVHF is not safe to do in the NYC and Syracuse watersheds; neither should it be done elsewhere in NYS where people rely on their local water to sustain their lives. The basis given for extra protection for NYC and Syracuse watersheds is that these cities do not filter their water. Not only is this also true of most of the residents living in rural areas of the state since they rely on well water, but the municipalities that do filter their water cannot remove all of the toxins (including VOCs and heavy metals) or the radioactive materials from their water.
2. The SGEIS should include a meaningful evaluation of the potential economic (positive and negative) and sociological impacts of the drilling. The 2011 dSGEIS fails to provide this evaluation. The most basic assumption entering the economic analysis, the estimated quantity of recoverable gas, is never explicitly stated; positive benefits are calculated in detail and sometimes exaggerated, including the expected lifetime of individual wells; some costs and negative impacts are noted but not evaluated; negative sociological impacts such as changes in character of local communities are not addressed. We do not know precisely what E&E was commissioned to do, but the analysis is not one on which key decisions should be based. More specifically:
 - a. No reference is made to many existing studies. The recent work of Susan Christopherson (<http://www.greenchoices.cornell.edu/development/marcellus/policy.cfm>) clarifies the highly complex nature of the economic and sociological impacts of drilling and looks at the history of such activities both within the state and elsewhere. The economic analysis ignores almost all of the many complex issues presented in the literature, such as the pace and scale of extraction activities a community can absorb; impacts on housing, health and safety services; and the impact on current economic activities.
 - b. The analysis does not seriously discuss the fact that extraction of natural gas will lead to a period of boom followed by a period of bust. Section 6.8.3.3 of the SGEIS trivializes the short- and long-term implications of the boom-bust cycles characteristic of industries exploiting natural resources. For sound evidence of the net-negative economic consequences of such industries, see *Booms and Busts: The Impact of West Virginia's Energy Economy* (West Virginia Center on Budget & Policy) <http://www.wvpolicy.org/downloads/BoomsBusts072111.pdf>

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and *Fossil Fuel Extraction as a County Economic Development Strategy: Are Energy-focusing Counties Benefiting?* (Headwaters Economics, Bozeman, Montana)

http://headwaterseconomics.org/pubs/energy/HeadwatersEconomics_EnergyFocusing.pdf

- c. A study of the literature makes it clear that the pace and scale of drilling and production is critical if communities are going to be able to absorb the new activity and monitor problems, and survive the devastating effects of the boom-bust cycle. The DEC, in section 9.2, dismisses the option of phased permitting with no mention of the benefits such phasing would bring to stressed communities.
- d. The assumed lifetime of each well (page 4-7) is not based on a careful study of actual experience in other regions in which HVHF has been done. It assumes that each well will be productive for 30 years whereas, according to a public briefing given in Albany by Prof. Christopherson on Dec. 13, 2010, annual production from a shale well declines by about 50% in the first year and gas production that is economically recoverable is uncertain beyond five years. (Source is *The Future of Natural Gas*, MIT Energy Initiative, Interim Report, 2010.)
- e. The total numbers used for recoverable amounts of gas are not given up front. However they may be estimated from the data given in the E&E report. See *Economic Assessment Report by Ecology and Environment Inc. Overstates Total Recoverable Reserves* by Advocates for Springfield <http://www.scribd.com/doc/68519448/NY-Gas-Reserve-Estimates>. Such an estimate suggests the amount of recoverable Marcellus shale gas in NYS assumed by the E&E analysis to be five times the recent estimate of the USGS. A meaningful assessment must start with a discussion of these estimates and of their basis and reliability. Indeed, the DEC website estimate is still far in excess of the USGS estimate of technically available shale gas.
- f. With respect to jobs, the models used and the employment multipliers applied to the activity have been seriously questioned by economists such as Janette Barth (*North American Shale Gas Plays: More Unanswered Questions*); and Susan Christopherson, in a year long study she led which can be found at http://www.greenchoices.cornell.edu/downloads/development/marcellus/Marcellus_CaRDI.pdf.
- g. The analysis by E&E mentions on page 4-61 that initially 77% of the workers will be migrant workers from out of state. But it does not discuss this fact when stating the number of jobs to be created and does not take this into account in the job numbers it claims. It also does not discuss or take into account in any calculations the amount of revenue from the gas extraction that will leave the state. James Northrup, who served on the Governor of Texas' Energy Advisory Council and is a partner and investor in oil and gas projects, has estimated that 80% of the revenue will leave NYS and so not be taxed or spent here. Neglect of attention paid to the export of economic benefits to the home states of transient workers and gas company corporate offices leads to a gross exaggeration of the perceived benefits to New York State and its local regions.
- h. The costs to local businesses and farms have been noted but no quantitative estimate has been made. These costs include the permanent or at least long-term reduction of the economic benefits from agriculture, tourism, wineries, breweries, and a number of other businesses that are at risk. Without such analysis it becomes meaningless to talk of the net benefits of gas drilling because there is no estimate of the cost side.

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- i. Other costs that have been ignored in the dSGEIS and the report by E&E are costs to local municipalities. These include increased demands on infrastructure, health and social services, the need to train emergency responders to deal with new problems and the need to add to these staffs, and the impacts on the school systems that will occur if migrant workers bring their families to town short term.
 - j. The study by E&E confirms (page 4-108) that the low income residents of Bradford County, PA, can no longer afford to stay in the apartments and homes that they have rented. The rents are too high and leases are not renewed if the owners can ask for more in rent. No suggestions have been made for dealing with this problem.
 - k. The study by E&E admits that home values for those close to drilling sites may decrease dramatically. It does not investigate the limitations relating to obtaining mortgages, or the exclusions from title insurance and homeowners' insurance coverage on properties too close to drilling sites. Neither does it address ensuring that the industry will be legally obligated to assume the full cost and expense of their commercial operations.
 - l. The study done by E&E claims that there will be a significant long-term growth of the population in the region. This ignores historical studies done by Susan Christopherson (see work cited above) and others that show a lower level of population growth in areas in which drilling has occurred within NYS as compared to neighboring counties in which it has not occurred. Also important is the change in character of the communities over or near the Marcellus Shale and the potential consequences of the departure of many current residents and the decrease in the numbers of new residents associated with the universities or retirement communities, who would find the industrial environment unattractive.
 - m. In regions where drilling does occur, sudden growth in population puts a burden on the communities affected. Figures on page 4-65 of the supplement indicate that the transient population will be less than 0.1% of the current population. Unless the charts are read carefully this can be grossly misleading since it uses as its basis the entire population of NYS. Page 4-82 gives a more meaningful analysis and shows that the growth may be as high as 12.5% in at least one region. It also admits that even this figure is for an entire region and that the population increase may not be uniformly distributed. We ask how the communities can absorb this sudden change, especially when it will consist of mainly transient workers. There is much work in the literature that speaks to this issue and should be studied when issues of pace and scale are considered.
3. Looking to the future, a high quality, well researched study of the economic and sociological impact of natural gas extraction is clearly crucial, particularly since most reports refer to natural gas as the "transition fuel" and estimates as to its longevity vary widely. However, it is also important to look at missed economic opportunities, in particular those that will be ruled out due to the physical impact of what is left behind once the gas is gone.