

Shale Oil and Gas Development: The Stakeholder Perspective

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Introduction¹

Any discussion about expanding the use of hydraulic fracturing, or fracking, in natural gas exploration, necessarily requires significant input from state and municipal governments and the corporate interests directly involved. Sadly, the federal role in the fracking discussion is fragmented. The Department of Energy, the Department of the Interior, and the Environmental Protection Agency are all involved in fracking in some manner or other. However, there is no consistent federal scheme for the regulation of fracking. Moreover, some private and industry stakeholders question whether a federal presence is necessary or desirable.

In a recent edition of *The Environmental Forum* (Vol. 29, No. 6 – November/December 2012),² the *Environmental Law Institute* solicited the opinions of a sampling of state, country and town leaders, an industry representative and a citizens organization. In this article, the opinions of both these and other stakeholders involved in the fracking debate will be examined. These various stakeholders play a crucial role in the fracking debate, particularly in New York, where the “rules of the road” have not yet been established.

These shareholder perspectives are provided against the backdrop of the debate in New York concerning whether to permit fracking to occur. As reflected in the views expressed by stakeholders in New York, particularly those purportedly representing county and municipal interests, there is a need to respond to some of the secondary societal impacts of fracking raised by critics, including diminution of property value; increased demands placed on community infrastructure, particularly roads; the increased crime rates and rental prices associated with an influx of out-of-state workers; and the fragmentation of rural landscapes with pipelines, roads and staging areas. In New York, much of the discussion revolves around how natural gas exploration should be regulated and who is best positioned to undertake regulatory responsibilities. This article will examine stakeholder views concerning what entity or entities should assume this role. Rather than address the science, this article will address how various stakeholders frame the issue.

Stakeholders confront their state representatives, not merely with environmental concerns, but with deeply held fears – whether rational or not – that gas exploration will be detrimental to their established way of life. Therefore, this author questions whether scientific evidence, no matter how well supported, will be sufficient to win over a skeptical citizenry. Without question, natural gas exploration using hydraulic fracturing has a future in New York. The only question is how the State will regulate the industry.

The Industry’s Perspective

A. Natural Gas Alliance

In an article titled, “*Self-Governance, Wise Regulation Can Lead to Win,*” Amy Farrell, Vice President, Regulatory Affairs, at the Natural Gas Alliance, makes the case for natural gas as a positive story for the United States. According to Farrell, natural gas is a clean, abundant and

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² *The Environmental Forum* is the policy journal of the *Environmental Law Institute*.

affordable American fuel, which represents an opportunity to become more energy self-efficient, to help clean our air, and to spur our economy, in part, through a return to manufacturing jobs.

Farrell recognizes that natural gas producers must comply with the requirements of the Safe Drinking Water Act, the Clean Air Act, the Clean Water Act, and OSHA. However, she believes that state regulators should be at the helm when it comes to regulating energy development. According to Ms. Farrell, “President Obama acknowledged the lead role of states in an executive order issued in April coordinating the work of the multitude of federal agencies currently examining hydraulic fracturing and looking to ensure federal actions are not duplicative.”

According to Farrell, the states have the on-the-ground experience when it comes to dealing with geological and hydrogeological formations in the various states. Significantly, she points out that there are important regional differences that provide a strong rationale for maintaining regulatory oversight at a local level. For example, in the Northeast, water typically returns to the surface in the hydraulic fracturing process, allowing companies to recycle it for use in future fracking jobs. In contrast, in some basins in the South, far less water returns to the surface. In those locales, the companies and state regulators are more focused on water conservation rather than recycling.

B. American Petroleum Institute

The American Petroleum Institute (“API”) website contains links to an impressive compendium of materials concerning hydraulic fracturing. An analysis of the documents on API’s website should go a long way toward convincing even skeptics of the benefits of hydraulic fracturing. Industry, working through organizations like API, has a long history of developing consensus-based “best practices.” Hydraulic fracturing best practices have been developed by industry experts in a variety of areas of technology and operations and go through a rigorous review process before being adopted. Building on existing API standards and practices pertaining to oil and gas extraction, API has developed a set of documents specifically designed to address risk management issues associated with well construction and management.

API’s best practices contain guidelines for:

1. The protection of groundwater aquifers during well construction and natural gas recovery;
2. Minimizing environmental and societal impacts associated with the acquisition, use, management, treatment and disposal of water and other fluids associated with hydraulic fracturing;
3. Minimizing surface and environmental impacts associated with hydraulic fracturing operations, including protection of service water, soils, wildlife and nearby communities; and
4. Transparency regarding the disclosure of chemical ingredients used in hydrofracking.

In an API publication “Hydraulic Fracturing: Unlocking America’s Natural Gas Resources,” (July 19, 2010), API provides details concerning what is involved in completing a well for shale gas development and production. The article observes that local impacts, such as noise, dust and land disturbance, are largely confined to the initial phase of development. Once

completed, the production site is reduced to about the size of a two car garage, according to the publication.

Like the Natural Gas Alliance, API believes that existing federal regulatory schemes sufficiently protect the environment.

C. Interstate Oil and Gas Compact Commission

The Interstate Oil and Gas Compact Commission (“IOGCC”) is a multi-state government agency created in 1935 to foster wise stewardship of domestic oil and natural gas resources.

According to its website, IOGCC member states each have comprehensive laws and regulations to provide for fracking’s safe operation and to protect drinking water. It cites a 2004 EPA study which found that, although thousands of wells are fractured annually, EPA did not find a single incident of the contamination of drinking water wells by hydraulic fracturing fluid injection. Additionally, IOGCC member states report that they are not aware of any cases where hydraulic fracturing has been found to have contaminated drinking water.

Based upon the sanguine statements on the IOGCC’s website, there appears to be something of a disconnect between the Commission and the views of environmental groups and municipal and county governments in New York.³ One of the industry’s greatest challenges is having its message heard and understood. If presented in the proper light, the benefits of shale gas exploration are compelling.

In an article titled, “*States Have Priority in Oil and Gas Regulation*,” Carl Michael Smith, Executive Director of the IOGCC, argues that the states should retain regulatory responsibility for implementing and enforcing fracking regulations.

In support of his argument, Smith cites President Clinton’s Executive Order 12866 which reads,

The American people deserve a regulatory system that works for them, not against them: a regulatory system that protects and improves their health, safety, environment, and well-being and improves the performance of the economy without imposing unacceptable or unreasonable costs on society; regulatory policies that recognize that the private sector and private markets are the best engine for economic growth; regulatory approaches that respect the role of state, local, and tribal governments; and regulations that are effective, consistent, sensible, and understandable.

³ What IOGCC does not discuss is the widespread perception that fracking is responsible for contamination of drinking water aquifers, whether scientifically accurate or not. According to an article published in the New York Times titled, “*Regulation Lax as Gas Wells’ Tainted Water Hits Rivers*,” (2/27/11, p. 1), homeowners in at least five states, including Colorado, Ohio, Pennsylvania, Texas and West Virginia, blame natural gas drilling for gas seeping into their drinking water supplies.

Smith argues that no one knows a state's geography or geology better than the states themselves. Echoing Mike Paque's view that the states are the most efficient regulators, Smith contends that one size does not fit all, particularly when it comes to the natural gas industry. Smith quotes Ronald Reagan who said,

The federal government has taken on functions it was never intended to perform and which it does not perform well. There should be a planned, orderly transfer of such functions to states and communities and a transfer with them of the sources of taxation to pay for them.

In summary, Smith urges that "states are able to adopt rules more quickly than federal agencies, making them better equipped to respond to changing local needs."

The Government's Perspective

A. The Municipality

Dominic Frongillo, Deputy Town Supervisor and Councilmember in Caroline, New York, contends in his article, "*Our Local Governments Last Line of Defense*" that local or municipal government in New York may be the only venue left to protect the interests of citizens.⁴ Although arguing that local government is the last line of defense against the evils of fracking, Frongillo admits that in New York State, "the regulatory toolbox of local government is limited." Potentially, municipalities can fight fracking using local powers provided by zoning; site plan review; light, noise and air quality regulations; and through the use of truck route and road use agreements, permits or bonds to protect local roads; and the co-location of pipelines and road rights-of-way for pipelines not regulated by other levels of government. Frongillo concedes, however, that municipalities lack the authority and technical ability to regulate the gas industry.

Believing that fracking is inconsistent with his Town's comprehensive plan and that state regulations will not mitigate adverse impacts, the Town of Caroline banned fracking altogether in September 2012. To date, over 135 municipalities in New York have taken the position that temporarily or permanently prohibiting fracking is a reasonable and prudent use of police powers under the Home Rule statute.

Frongillo's "last line of defense" is actually a municipal version of the "not-in-my-backyard" or NIMBY response. Rather than trust to the state or federal government to issue regulations that will permit fracking to be performed safely throughout the state, these municipalities have decided that they simply want the activity to take place somewhere else.

Frongillo identifies a "parade of horrors" that can result from fracking including "thousands of heavy truck trips; transportation of hazardous waste; risks to first responders from hazardous chemicals; radioactive radon; air pollution; venting methane; earthquakes; surface spills; blowouts; well-casing failures; and risks for contamination of drinking water." To complete the Hieronymus Bosch landscape he envisions for upstate New York, Frongillo cites

⁴ Mr. Frongillo, in addition to being Deputy Town Supervisor and Councilmember in Caroline, NY, is also founder of *Elected Officials to Protect New York*.

further detrimental effects including “an influx of transient out-of-state workers, increasing crime rates and rental prices; housing price destabilization and homeowner mortgage problems; a boom bust economy which impacts local businesses, farms and tourism; local inflation; fragmentation of rural landscapes with pipelines, roads, staging sites and compressor stations; an introduction of a 24 hour industry in rural areas.” In short, Frongillo forecasts an end to life as we know it if hydrofracking permits are issued.

Even so, Frongillo recognizes that although municipalities adopt fracking bans, they are still vulnerable to drilling impacts in neighboring municipalities. He questions how fracking can co-exist with local sustainable economies, such as Cayuga Pure Organics, a farm that grows beans and grains to sell directly to restaurants. He believes that if fracking is permitted “anywhere in our region,” it will ruin consumer confidence in the farm’s brand of “pure and organic.”

Sentiments such as those expressed by *Elected Officials to Protect New York* and others encouraged to Governor Cuomo to call for a moratorium on the issuance of fracking permits until a comprehensive health assessment is performed.

The nightmarish fracking landscape portrayed by Frongillo, in which New York’s agricultural heartland will be destroyed, contrasts rather vividly with the Natural Gas Alliance’s sanguine view of an America blessed by a natural gas boon and the benefits of a resurgence in energy exploration.

B. Ground Water Protection Council

The Ground Water Protection Council is a non-profit, whose members consist of state groundwater regulatory agencies, which come together to work toward the protection of the nation’s groundwater supplies. As Executive Director of GWPC, Mike Paque is responsible for maintaining an effective relationship among the organization, and its members, and the federal regulatory agencies charged with the protection of groundwater.

In an article titled, “*States are Best Level for Oil and Gas Regulation,*” Paque argues that the states are best situated to implement and enforce environmental laws. He observes that the states have regulated oil and gas production for a century without the widespread degradation of surface and groundwater that some suggest will, or is, occurring. Thus, he does not believe that concerns over fracking warrant new federal intervention in long standing state programs.

Over the years, a system has developed pursuant to which federal programs delegate authority to state regulatory agencies that have: (1) technical knowledge and experience; (2) trained personnel; and (3) long established field organizations and presence. This arrangement permits the states to design and administer programs within the framework of their unique knowledge and understanding of local conditions.

According to Paque:

Under primacy agreements, state agencies have the authority to enforce federal laws. This allows the state to bring its considerable technical understanding and personnel resources to the regulatory process. Although primacy agreements are legally binding delegations of authority, they can be modified, updated, or even

abrogated by either party. Consequently, they remain a dynamic means of ensuring the goals of environmental protection being met. These programs are in place today and provide for the protection of air, land, and water.

Today, the oil and gas industry has increased its efforts to work directly with concerned shareholders on drilling and related impacts and safeguards. However, Paque faults the industry for not doing enough marketing and education earlier, particularly because the industry was going into new geographic areas with new technology. But Paque rejects as unworkable the concerns of those who are calling for a new “one-size-fits-all” federal regulation of the industry.

Paque closes his article by recalling that Albert Einstein once noted that “things should be made as simple as possible but no simpler.” Similarly, he believes that regulation should be administered at the most effective level but no lower and, according to Paque, that means the state level.

C. County Government

County governments in New York State have very little authority, but have considerable responsibility – and risk – when it comes to the oil and gas industry. This is the theme of Martha Robertson’s article, “*Counties Have Skin in the Game Too.*” Robertson is the chairperson of the Tompkins County Legislature and the Tompkins County Industrial Development Agency. Like Dominic Frongillo, Robertson is a founding member of *Elected Officials to Protect New York*. From a county’s perspective, according to Robertson, there is virtually no upside to permitting fracking to occur.

Although they have little regulatory authority, the counties bear considerable responsibility for the public welfare. Among the fracking negatives cited by Robertson are:

- County Health Departments will have the burden of monitoring public and private drinking water supplies;
- Drilling jobs will most likely go to non-local workers resulting in the counties having to spend more on services to accommodate the influx. Permanent residents are pushed out of housing they can no longer afford;
- Counties will have to address what she predicts will be a rise in homelessness and social disruption;
- Counties will have to deal with any income disparity resulting from the boom-and-bust cycle inherent to drilling;
- There will be what she characterizes as the “impossible burden” on traffic infrastructure; and
- There will be diminution of property values due to increased truck traffic combined with insurance companies’ unwillingness to insure against drilling-related losses;

The mission of *Elected Officials to Protect New York* is to push for a continued moratorium on fracking in New York until all potential health, economic and cumulative environmental impacts on local communities have been fully investigated. Although the group

has representatives from all 62 counties in New York, Frongillo and Robertson are two of the primary spokespersons for the group. It is likely that many counties and municipalities in New York share their concerns. Consequently, it will require a substantial public relations effort by the oil and gas industry to win the hearts and minds of New York's citizenry and to provide the necessary safeguards to assuage their concerns.

It is not clear why this organization believes that the introduction of a profitable industry in upstate New York will cause homelessness and social unrest. More likely, natural gas exploration will stimulate the economy and create many new jobs. Economic studies on the effects of natural gas exploration in New York State predict increased employment, earnings and economic output and an overall increase in the demand for goods and services. As the new construction and production workers spend a portion of their payroll in the local area, and as the natural gas companies purchase materials from suppliers in New York State, the overall demand for goods and services in the state is likely to expand. Revenues at wholesale and retail outlets and from service providers within the state would also likely increase.

D. New York State

Before permits for large scale hydrofracking can be issued in New York, a Supplemental Generic Environmental Impact Statement ("SGEIS") must first be finalized. The SGEIS provides the permit conditions required for gas drilling in Marcellus Shale and other areas of the state.

Whatever the outcome of the permitting process deliberations, DEC Commissioner Joseph Martens stated in September 2012 that he is virtually certain that there will be litigation on the issue of hydrofracking. In particular, Martens believes that local hydrofracking bans – which some towns and villages in the state have passed – would most likely be challenged in court. Martens has gone on record stating that hydrofracking can be performed safely. There is widespread support for increasing DEC staff to handle the anticipated higher level of regulatory oversight of natural gas sites once the *de facto* moratorium on the issuance of permits is lifted.

In November 2012, New York State's Health Commissioner, Dr. Nirav Shah, named three top-notch public health experts to assist in the Department of Health's consideration of the health risks associated with fracking. These experts – Lynn Goldman, dean of George Washington University's School of Public Health and Health Services; John Adgate, chair of the Environmental and Occupational Health Department at the Colorado School of Public Health; and Richard Jackson, chair of the Department of Environmental Health Sciences at UCLA's Fielding School of Public Health – are among the foremost experts in the country in their respective fields and in the field of health impact assessment. Environmental advocacy groups, including NRDC, were extremely pleased with these appointments.

On November 27, 2012, Governor Andrew Cuomo advised the press that the State may be filing for a 90-day extension to its initial November 29 deadline for releasing proposed regulations for fracking in New York. Thereafter, DEC filed a Notice of Continuation with the Department of State to extend the rulemaking process by ninety days in order to give Dr. Shah time to complete his review of the draft SGEIS. The Department of State filing extended through January 11, 2013 the public comment period to enable Dr. Shah to complete his review and provide DEC time to take into account the result of Dr. Shah's review.

The Environmentalist's Perspective

A. Natural Resources Defense Council

Prior to returning to the National Resources Defense Council as Clean Energy Counsel, Kit Kennedy served as the head of the Environmental Protection Bureau at the Office of the New York State Attorney General. In her article, "The Answer to 'Whose Role?' is 'All of the Above,'" Kit Kennedy contends that there is a need for regulation at the federal, state and local levels. Thus, NRDC takes an "All of the Above" approach to the regulation of fracking.

At the federal level, Kennedy argues that loopholes in federal regulatory schemes, such as the Clean Air Act, the Clean Water Act, CERCLA, RCRA and the Safe Drinking Water Act, should be closed. In particular, federal regulation is necessary to avoid interstate pollution where, for example, a spill of fracking fluid in one state can contaminate the waters of another. According to Kennedy, federal regulation is required to prevent "a race to the bottom" by states who seek to attract industry at the expense of environmental protection.

Under cooperative federalism, states play an important role in implementing federal environmental statutes and can play the lead role in the permitting process. States have the flexibility to experiment with different regulatory approaches so long as they meet federal minimum regulatory requirements. But NRDC has found that there is a patchwork of differing state fracking standards, with some states taking a stronger stand than others, and that many states fail to report their own rules regarding oil and gas development. Thus, it is NRDC's view that all citizens deserve the protection of a set of consistent federal standards.

At the local level, there is litigation pending in New York, Pennsylvania and Colorado in which municipalities are defending their traditional land use rights to address the threat of under-regulated fracking. NRDC believes that local government should be empowered to have a voice in their own future when it comes to fracking and supports these municipality efforts. Kennedy notes that some states have attempted to restrict the right of local governments to regulate where, how and if fracking takes place in their communities.

B. NYLCV and Other Environmental Advocates

The New York League of Conservation Voters ("NYLCV") is the only statewide environmental organization in New York that addresses environmental issues directly through political action. NYLCV has a reputation for being non-partisan, pragmatic and effective.

NYLCV's policy agenda with regard to hydraulic fracturing contains six key elements:

- To ensure no hydraulic fracturing permits are issued until New York's regulations have been updated and are in full effect;
- To ensure that regulations are based on an environmental impact statement that addresses the risks and impacts associated with hydraulic fracturing and the management and disposal of wastes generated by that activity;
- To ensure that the regulations establish drill-free zones in identified environmentally sensitive or habitat-critical areas (including specified watersheds);

- To ensure that hydraulic fracturing waste waters that meet the definition of hazardous waste under state law and regulation are managed and disposed of as such;⁵
- To require appropriate measures to address the socio-economic and reasonable environmental concerns of impacted localities; and
- To ensure that New York State Department of Environmental Conservation (“DEC”) has the staffing and resources needed to enforce the regulations and monitor compliance.⁶

Many environmental advocates in New York do not categorically oppose hydraulic fracturing. The environmental community recognizes that there are important benefits from domestic natural gas exploration to our national security and to depressed regional economics. In addition to the economic benefits, environmentalists recognize that natural gas, compared to coal, generates less greenhouse gas and its use results in less particulate SO_x and NO_x emissions. Hence, there is an effort on the part of both industry and environmentalists to work cooperatively in achieving common goals. For example, one of the strategies of American Rivers, an organization dedicated to protecting and restoring rivers and clean water, is to “partner with industry leaders willing to set a higher bar for natural gas practices, and encourage regulators to adopt the best standards of practice to protect clean water.”

Rather than opposing hydrofracking, environmentalists call on industry to adopt best available technology (“BAT”) wherever possible to protect human health and the environment. Some technical innovations that represent BAT include: capturing air emissions; reusing toxic fracking fluids to reduce waste; using non-toxic substitutes where available; using closed-loop pitless drilling; preventative maintenance to prevent leaks; and well-clustered and centralized operations.

According to Jennifer Sass, an NRDC Senior Scientist and environmental blogger,

Voluntary use of the above BAT... has had the following proved benefits: wells fractured with non-toxic fluids were found to be effective and less costly; closed loop drilling incurs a cost-savings and also reduces road use, truck noise, emissions and dust, and water waste; capturing methane emissions from a well reduces air pollution and the methane can be sold to offset the costs associated with installing BAT. In summary, BAT can pay for itself if companies only put in the effort to install and use it!

A review of the website of the American Petroleum Institute reflects that the industry uses cutting edge technology to ensure that environmentally safe hydraulic fracturing and horizontal drilling take place.

⁵ One of NYLCV’s legislative priorities is to close a loophole in federal environmental regulations that currently categorizes hydrofracking waste water as non-hazardous – even if the waste water itself is actually hazardous. In February 2012, the New York Assembly passed a bill to close this loophole. NYLCV is working with partner environmental organizations to seek passage of companion legislation in the Senate.

⁶ A Cornell University study has determined that DEC does not presently have sufficient personnel to regulate fracking.

CONCLUSION

The natural gas industry possesses both the science and the practical know-how to be confident that fracking can be performed without causing the contamination of groundwater and surface water. Notwithstanding the scientific evidence, there is a widespread perception in the Marcellus Shale region that fracking may endanger groundwater aquifers. In addition, there are significant social concerns that go far beyond the environmental issues. In a largely rural region that is unaccustomed to the sprawling industrial impact of natural gas drilling, unlike other parts of the country, there is apprehension that adverse societal effects may outweigh the predicted economic benefits.

These factors do not necessarily suggest that there will be an increase in mass tort cases as a result of fracking as some predict. To the contrary, political and regulatory pressure on both the State and industry, and the attendant scrutiny by the media, suggests that this activity, when finally permitted to proceed, will be well-regulated, both through industry self-policing and by the State. Environmental litigation involving groundwater is extremely expensive and time-intensive to undertake. The Plaintiff bar is unlikely to rush into the region and file lawsuits unless there is some assurance of a significant recovery at the end of the day.

Earlier this year, a hydrofracking toxic tort case pending in the District Court for Denver County in Colorado, *William G. Strudley v. Antero Resources Corporation, et al.*, was dismissed. On May 9, 2012, District Court Judge Ann B. Frick dismissed the case due to plaintiffs' failure to comply with the court's Modified Case Management Order ("MCMO"). The MCMO required plaintiffs to provide the Court with sworn expert affidavits establishing the identity of the hazardous substances plaintiffs alleged caused their harm; whether these substances could cause the type of diseases and illnesses claimed by plaintiffs (general causation); the dose or quantitative measurement of the concentration, timing and duration of alleged exposure to each substance; an identifiable, medically recognizable diagnosis of the specific disease or illness for which each plaintiff claims medical monitoring is necessary; and a conclusion that each such disease or illness was caused by the alleged exposure (specific causation).

In dismissing the case, the Court found that plaintiffs failed to provide any "statement regarding what constitutes dangerous levels of any substance in drinking water or whether any causal link exists between the study's results and plaintiffs' alleged injuries." The Court determined that plaintiffs' expert's affidavit was wholly lacking in establishing causation and, at times, presented evidence "circumstantially, in direct contradiction to plaintiffs' allegations."

The prominent New York plaintiff lawyers who filed this case may certainly file hydrofracking cases closer to home in Marcellus Shale, but their experience in Colorado is likely to make them (and other plaintiff lawyers) more wary of taking on scientifically unsupportable claims. If New York courts hold plaintiffs to strict scientific standards, hydrofracking mass tort cases may prove difficult to win.

There are a number of tools that industry can utilize to address the concern over the infrastructure impacts of hydrofracking. In the immediate vicinity of drilling operations, companies can offer Value Assurance Plans ("VAPs") to homeowners to protect them against diminution of property value as a result of their living in an area where industrial activity is taking place.

VAPs have been used by industry successfully in a variety of situations, including by landfill operators seeking permits to enlarge their landfills and by companies engaged in long term environmental remediation activity. A VAP is a contractual commitment to the community that assures homeowners that the proposed activity will not result in their loss of investment in their homes. At its core, the VAP is designed to discourage panic selling, which almost always results in diminution of property value, and to maintain the integrity of the community.

The battle over hydrofracking in New York will ultimately be driven by political and economic considerations. The science and the technical know-how to perform natural gas exploration safely in Marcellus Shale are well-established. Although there is still disagreement, there is a growing consensus in the state concerning the regulatory structure that will emerge from public discussions. Environmental advocates and industry will continue to work hard to “get it right” and they may often disagree, but the hardcore opposition to hydrofracking appears to be in the counties and municipalities throughout New York. It is here that pitched battles may well be fought.

The use of VAPs and other creative tools by industry can go far to addressing community stakeholder concerns and perceptions. The promise of new jobs and increased tax revenue should ultimately win over upstate towns and counties still mired in a deep recession.

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