

Energy Federalism: Who Decides?

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What is the Issue?

Questions about energy production and consumption are acquiring renewed urgency in the 21st Century. Some go to the heart of our nation's system of federalism, as an underlying but ever-present friction mounts over the way in which decision making power has been divided between central and more locally distributed political units. What is at stake? According to one author, "the choice of regulatory forum often seems to determine the outcome of the controversy. That may explain why Americans have traditionally shed so much metaphorical and genuine blood deciding what are essentially jurisdictional disputes between governmental institutions."ⁱ

A number of factors have raised these issues into greater prominence. Energy specific influences include the depletion of low cost oil, advances in energy extraction technology, and increased awareness of the link between climate change and energy consumption and production. Another element is the long standing but increasingly hardened absence of a broad based consensus over energy policy at the federal level, despite calls for such a policy that date back to at least the Nixon administration. These have been superimposed on shifting political trends in other areas, including the expanding national political divide. After the crest of federal adoption of new environmental legislation in the 1960's and 1970's, powerful and complex cross currents arose. Mostly "conservative" and anti- (or anti-"big") government forces mobilized in the devolution, deregulation, privatization, and property rights movements. In contrast, "progressive" movements evolved in response to increased globalization (of economic and environmental issues) and personalization (eg. of communications/information technology) by promoting global governance in some arenas and relocalization or local empowerment in others.

Several energy examples being played out in New York State, as well as in other states and on the national stage, serve as useful and representative illustrations of the fundamental but insufficiently appreciated tensions raised. The first involves the spread of the controversial hydraulic fracturing technology that is used to extract oil and gas from "unconventional" reserves of shale and other rocks. The second and third involve the generation and distribution of electricity: where the authority to site electricity generating stations is vested, and who has the authority to site transmission lines that move electricity from their mostly rural points of extraction or generation to their mostly urban points of consumption.ⁱⁱ These are but a few among many examples that highlight the extent to which the proliferating threads of debate about energy federalism are being cinched into an increasingly dense tangle.

¹ For shorter versions of this article, see also

<http://devsoc.cals.cornell.edu/cals/devsoc/outreach/cardi/publications/loader.cfm?csModule=security/getfile&PageID=1069208> and <http://ruralfutureslab.blogspot.com/>

High Volume Hydraulic Fracturing (HVHF) for Natural Gas Extraction

State authority is dominant in regulation of natural gas drilling, but is currently contested from both above and below, ie. by both federal and local government and their advocates.ⁱⁱⁱ In general, the challenges to the status quo of state control are led by critics of HVHF. Whether implicitly or explicitly, most of these critics believe that environmental and related regulations imposed by the federal government, as well as their own local governments, will be stricter than those imposed by state governments.^{iv} By the same token with this highly politicized and polarizing issue, advocates of maintaining state authority tend to favor HVHF. The pro-industry organization Energy in Depth, for example, highlights state initiatives that have “remind[ed] Congress that regulation and risk management at the state level is, and always has been, the most effective approach”.^v

Despite state dominance, federal authority is far from absent in HVHF-relevant regulation, or energy issues in general: water withdrawals are regulated by interstate river basin compacts authorized by Congress; the Federal Energy Regulatory Commission (FERC) has an important role in regulating interstate gas and electric lines (plus electricity rates and hydroelectric facilities); the Department of Energy (DOE) has research and policy responsibilities; the Department of Interior (DOI) controls mineral development on federal lands; the Environmental Protection Agency (EPA) has broad authority to control energy related pollution.^{vi} However, Federal regulators have exempted several aspects of oil and gas operations from federal environmental regulations, determining that these regulations were “unwarranted” in light of existing state and federal regulatory regimes.^{vii}

One exemption specifically applies to hydraulic fracturing. In the wake of an earlier US Court of Appeals decision asserting EPA’s authority to regulate coalbed methane production in Alabama, the 2005 federal “Energy Policy Act” was signed into law under Republican leadership. This Act included a provision explicitly exempting the underground injection of most hydraulic fracturing fluids from regulation by EPA under the national Safe Drinking Water Act. States have thus retained paramount authority to issue permits for onshore oil and gas drilling and to regulate environmental impacts of HVHF. However, this controversial provision of the 2005 law, described by opponents as the “Halliburton loophole”, is one factor that has led to increasingly vigorous challenges to the current distribution of regulatory authority and its deference to state regulation. Democratic critics introduced the so called “FRAC Act” in 2009 with the intention of including hydraulic fracturing as a federally regulated activity under the Safe Drinking Water Act.^{viii} This act has not, to date, passed either chamber of Congress. In the meantime, as the federal EPA has investigated high profile cases of water contamination alleged to have been caused by hydraulic fracturing operations in Dimock Pennsylvania and Pavillion Wyoming, some officials in those states have been highly critical of federal intervention, in one instance suggesting that the EPA had only a “rudimentary” understanding of the situation and in another calling on the EPA to adopt “a more cooperative, logical and scientific approach.”^{ix}

The authority of the states to regulate hydraulic fracturing is also being challenged by local governments. In Northeastern shale gas rich states such as Pennsylvania, West Virginia, Ohio and New York, state law appears to “supercede all local laws or ordinances relating to the

regulation of the oil, gas and solution mining industries”, in the particular words of New York’s Environmental Conservation Law.^x However, in New York alone, at least two dozen communities have adopted bans or moratoria that challenge what has conventionally been taken as the plain language interpretation of this phrase.^{xi} The precise meaning of this supercession wording -- whereby the state preempts local government authority to control oil and gas operations -- and the corresponding validity of local laws, is still being interpreted by each state’s courts. Within each state, the stage of litigation, appeal, and legal clarity on this issue differs. In none is it finally settled.^{xii}

It should be noted further that, just as with discussion of federal/state relations, legislative as well as judicial branches have taken an interest in the distribution of authority between state and local governments over gas drilling. Pennsylvania, for example, recently passed state legislation partly in response to local legislative initiatives concerned with HVHF. Concerned with fees and fiscal issues, the State legislation also declares that “environmental acts are of Statewide concern” and severely restricts the ability of local ordinances to regulate oil and gas operations.^{xiii} In New York, while the courts consider the appeals mentioned above, and while the State’s Department of Environmental Conservation continues its extended review of the environmental impacts of HVHF through its environmental impact statement procedures, legislators have also weighed in: 40 bills included the key words “hydraulic fracturing” in a recent legislative bill search. Among legislation that has been introduced, though not passed into law, are bills that clearly delineate significant local home rule authority, i.e. extend to oil and gas operations most elements of traditional local “home rule” jurisdiction over zoning and land use decisions.^{xiv}

Power Plant Siting and Electricity Transmission

Unlike the steady drumbeat of media attention accorded the HVHF issue, the issue of jurisdiction over power plant siting and transmission of electricity has evolved with less notice in the popular press. It has, however, been given extensive attention by the utility and energy industries, legal scholars and energy industry analysts, and various policy making bodies.

Even as the Energy Act of 2005 exempted hydraulic fracturing from federal legislation, it stipulated that a federal agency (FERC) would hold siting authority for certain electric transmission lines, and not incidentally for all natural gas pipelines destined for resale markets involving interstate commerce.^{xv} Both fossil and renewably fueled sources of electricity -- prominently including wind -- are most often generated in areas remote from their site of consumption, and large investment upgrades in transmission infrastructure are projected to be necessary to deliver electricity from rural regions to urban users. The Energy Act of 2005 was intended in no small part to overcome obstacles to realization of this investment. Many of these obstacles have been posed by state and local procedural friction and by outright resistance.

In particular, under federal law (16 U.S.C. § 824p), the FERC may “designate a national interest electric transmission corridor”. In designating a corridor, weight may explicitly be given to factors involving multi-state or national interests including regional and national economic

vitality and growth, reasonably priced energy, limits on energy supply, energy independence, national energy policy priorities, national defense and homeland security. Should state governments fail to do so, FERC is authorized to issue permits for interstate electric transmission facilities in the corridor so long as they are determined to be in the public interest and meet several other conditions. FERC may trump state authority for a variety of reasons such as lack of state agency authority to account for “interstate benefits” or simply the state’s failure to issue a permit in a reasonable time and manner for a facility that would result in “significantly reduced transmission congestion in interstate commerce.”

However, in practice this “backstop” permitting authority of FERC has, on at least procedural grounds, been successfully challenged in the courts and has yet to be used; some question whether it ever will be effective.^{xvi} Leading advocates of grid modernization in the electricity industry, ranging from American Electric Power to the American Wind Energy Association, have advocated for strengthening FERC’s authority further, while many others remain wary of undermining routes of access to decision making authority if state and local oversight is weakened.^{xvii} This balance remains a work in progress.

Similar issues surround the distribution of authority in the siting of electricity generating facilities. A 2009 article prepared as background for the NYS Energy Plan reports that, “Approvals for the construction of most types of electric generation facilities, such as natural gas-fired generators, landfill gas recovery facilities, wind turbines, and solid waste combustors, are within the jurisdiction of State and/or local agencies.”^{xviii} One article with a pro-centralization perspective on siting policy (ie. by an author who describes and is critical of prevailing state and local “parochialism”) makes the following broad points on the status quo:^{xix}

When a [new power plant] is proposed, the state has the right to block the project. Moreover, in twenty-two states, local governments are also permitted to block such expansion projects.... Only a handful of states allow siting boards to consider regional benefits.”

Concerns about “parochialism” have also found policy traction within states. The Power NY Act signed into law in New York in 2011 offers a recent example.^{xx} Article X of this law lowered from 80 to 25 MW the threshold for removing the licensing authority for proposed electric generating facilities from local jurisdiction. Modestly scaled electricity generators now will undergo permit review by a state siting board appointed by the legislature, inclusive of two of seven members residing in the municipality in which the facility is to be located. Though not differentiated as to fuel source per se, the implications for wind energy have been given particular attention by both wind energy supporters and opponents; wind farms with as few as seventeen 1.5 MW wind turbines will now undergo state rather than local review. Advocates and opponents of Article X alike see the legislation as an effort to facilitate the siting of new energy facilities, in part by reducing the influence of localized opposition that holds greater sway under local “home rule.”^{xxi}

Energy Federalism

These examples of contested regulation are indicative of some of the pressures being exerted on the status quo of federalism in relation to evolving energy policy. Logical consistency regarding preferences for federal/state/local control in these examples is, however, not easy to discern. A framework to address the issues raised would be helpful. In this section, it is suggested that some organizing principles derived from “environmental federalism” can be profitably applied to energy.

Sovocool^{xxii} provides such a framework. He summarizes a typology of theories of environmental federalism with four distinct cells:

- *centralized federalism* - concentrates environmental review authority in the highest level of government;
- *devolved federalism* - locates authority in state and local government;
- *dual federalism* - advocates that distinct and separate domains of authority exist for centralized and decentralized government, and
- *interactive federalism* proposes that “national, state, and local governments should have overlapping and somewhat redundant roles in their environmental policymaking.”

Centralized Federalism

Sovocool list four significant benefits of the centralized theory, a theory which has provided the legal support for a strong federal role throughout American history. The first benefit finds modern expression in the language of environmental economics by highlighting the *economic efficiency of internalizing economic externalities* such as transboundary pollution. The essential logic is that the decisions are most efficient and fair when decision makers represent all constituencies who will experience significant costs and benefits of the decision. Small, decentralized authorities have few incentives to attend to impacts on those outside their own jurisdiction.

The second benefit is derived from a regulatory theory that favors economic investment. From this perspective, the uniformity and consistency of regulation imposed by a single authority *lowers the costs of regulation* for manufacturers and investors, in particular if they are active in multiple jurisdictions. Of course, the efficiency of lowering investment costs is not perceived as a benefit by those who see the investments as detrimental.

The third benefit is also fundamentally about economic advantage and efficiency. It posits that uniformity in regulation across jurisdictions enables *economies of scale in regulation itself*. Larger scale enables greater efficiencies in regulatory administration and enforcement as well as in research that provides the scientific basis for the regulation itself. An additional complexity is involved in the scaling of influence and power. In particular, some argue that there is an inherent mismatch between local politicians and corporate interests. In particular,

the former have relatively meager financial, legal and technical capacities and are arguably more likely to be “captured” or even overwhelmed by the interests of a few key businesses. They may simply be more likely to make either unwarranted or unnecessary concessions to economic interests to the detriment of environmental ones.

The final benefit is categorically different: “it promotes distributive justice and a minimum standard of environmental quality, thus preventing a race to the bottom” among the states. The idea here is that a centralized authority is logically necessary to impose minimum standards and, in the face of competition for capital investment, practically more likely to guarantee a minimum standard of human health and environmental quality that applies to all. Of course, to be valid the aggregate minimum must indeed be higher than the minimum among the separate smaller governments.

Devolved Federalism

The theory of devolved federalism turns several of these arguments on their heads, reframing them to provide support for states’ rights and local home rule. These arguments have been prominent in much modern land use and environmental legislation during the recent decades of devolutionary policy at the federal level. Briefly, decentralization is advocated because it enables experimentation and innovation (eg. “let 50 state regulations bloom”). Devolved federalism posits a kind of race to the top. It focuses on models of innovation wherein forces of competition enable the adoption and diffusion of best governance and regulatory practices (“positive contagion”). Because of the pragmatics and politics of information flows (ie. it is difficult to monitor, communicate with, and influence multiple agencies) and the need to access many different decision makers, devolution makes it less rather than more likely that single powerful interests will “capture” all regulatory agencies. Devolved federalism facilitates greater flexibility in tailoring regulation to state and local problems, based on a) better and more relevant information for the issue at hand, associated with an acknowledgement of the importance of diversity in local conditions, and b) variable local preferences and the importance of optimizing the potential for choice (c.f. public choice theory). Devolved federalism also improves accountability and equity insofar as it is deeply influenced by theories and normative values associated with participatory democracy and, in turn, its roots in ancient republican ideas about “civic virtue”.

Equally briefly, dual federalism (“layer cake” federalism) combines the logic of the previous theories with constitutional arguments to assert that different levels of government have different comparative advantages, unique constitutionally grounded authorities, and are in any event distinctly suited to different roles. Examples of this approach that were mentioned above include the assignation of separate roles and authorities to federal, state and local governments in the interstate transmission of wholesale electricity and gas pipelines, the siting of different kinds of power plants, and the protection of drinking water supply through the Safe Drinking Water Act (not excluding the distinctive but clear exemption of hydraulic fracturing from the federal authority of the SDWA). Key benefits seen by advocates of this theory include reduced ambiguity of authority via a clear separation of shared authority, protection of individual rights

via the dispersal of related but nonoverlapping powers across different entities, and increased ability to tailor regulations to the appropriate scale.

Lastly, “interactive federalism” (also “cooperative”, “dynamic” and “marble cake” federalism) starts with a fundamental empirical claims to realism and pragmatism - that national, state, and local governments in most complex issue areas will inevitably engage overlapping rather than distinct authorities. In Sovocool’s summary, this theory claims five advantages over the others: (i) plurality, (ii) dialogue, (iii) redundancy, (iv) accountability, and (v) economies of scale.

The idea of *plurality* best reflects, perhaps, the possibilities associated with diversity of perspectives and, most optimistically, even teamwork. Resonances of negotiation and collaborative decision making theory are found in the idea that problems can best be solved, value created, and net benefits maximized through an exploratory process which optimizes constructively facilitated interactions of entities with different perspectives and points of view. Cross jurisdictional *dialogue* is a complementary, beneficial mechanism that can foster learning while leading to coordination, innovation, participation, and partnership. *Redundancy* in authority is a kind of risk management insurance policy that can create a “regulatory safety net”. Like most insurance policies, it would presumably incur some costs while reducing the risk of regulatory failure. *Accountability* benefits are posited to exist in the co-dependency of different authorities, suggesting that the vigilance of each might well increase with shared responsibility, as does the difficulty of independent authorities being captured by the same special interest. Finally, this shared responsibility retains the benefits of *economies of scale* associated with consistent centralized standards while retaining room for decentralized experimentation with approaches or standards that are required to exceed baseline or minimum criteria.

Sovocool considers the weaknesses as well as asserted strengths of each approach in evaluating two particular energy/environmental policies: renewable portfolio standards that mandate the purchase of renewable and greenhouse gas emissions quotas. He concludes that interactive or marble cake federalism, with minimum standards set by the federal government, is best suited to deal with these energy issues. Whether he would come to the same conclusion applying these criteria to different energy case studies remains an interesting question.^{xxiii} However, it is the importance of applying the criteria for evaluating strengths and weaknesses that I wish to highlight here. Sovocool’s taxonomy of costs and benefits may not be exhaustive^{xxiv}, but his work at best issues a challenge for others to argue for the inclusion of salient alternative principles.

Leading Questions for a Research Agenda?

As in Sovocool’s analysis, the examples of hydraulic fracturing, transmission, generation facility siting, and related energy policies can and perhaps should be viewed in the context of competing theories of federalism. This type of contextualization would require making transparent numerous underlying assumptions, and in so doing would make the goals of both rational decision making and practical democracy more meaningful. The theories highlight

important empirical and normative questions about both individual and systemic (insofar as they exist) energy policies, but also about questions of federalism that, in other contexts, have been engaged since the founding of the country.^{xxv}

The questions posed next point to a variety of agendas for further research. What levels of government currently have the authority to make decisions about energy policy? Is the current distribution of authority optimal, or even appropriate? Are Sovocool's criteria the appropriate ones to apply to this analysis? Should authority be shared evenly across levels of governmental jurisdiction or concentrated at a particular level of governance? What categories of energy policy decisions *should* local, state, federal or even international governments have within their jurisdictions? Who benefits and who bears the costs when authority is vested for various energy policies at different levels of government? Which distribution of authorities is most likely to equitably account for environmental, economic development, and distributional priorities? Whose voices were counted in establishing these priorities in the first place?

How do answers to these questions vary depending on the energy source – whether conservation, renewable resources, or nonrenewables like fossil fuels or nuclear energy? What about variation by particular kinds of policy, for example taxation of energy company gains (eg. capital gains tax) versus taxes on energy consumption (eg. gasoline sales tax)? Or preferential purchasing (e.g. renewable energy portfolios) or other forms of subsidy for fuel or energy technology? Or environmental regulations protecting water or air, or permits issued for mining or other resource extraction?

Finally, what are the implications of the ways these questions are answered for our energy future? For American democracy, with its representative democracy structures and direct democracy yearnings? For the complex network of related environmental, economic, national security and social issues?

Summary and Conclusion

New Yorkers are “spilling blood” - in the metaphorical sense suggested above - over whether local, state or federal government should control the fate of hydraulic fracturing in NYS. Blood pressures have also risen over who should permit moderately sized electric generating facilities and control the siting of natural gas and electricity transmission corridors. Not infrequently, advocates who argue for or against federal or state or “home rule” in one context reflexively take the opposite position in another. This may make strategic sense in the heat of battle over specific policy decisions about particular energy technologies or fuels or sites. However, a danger exists for partisans and policy makers who fail to lift their line of sight above the battlefield. Unless principled arguments about the benefits and costs of rebalancing federalism are considered, the distribution of power and passion that lead to precedent and victory in one arena may well simply set the stage for defeat in another.

Sovocool suggests that “marble cake” federalism is the best suited and most practical approach to energy policy making. Be that as it may, it should be evident that the claimed benefits of each approach he lists are more of a promise than a guarantee. The point of this paper is not to identify a universally preferred structure of federalism, but to advocate that energy literacy

incorporate basic governance principles. This would require all involved to step back from the fray for a harder look at the implications of energy federalism for long term strategic concerns as well as short term tactical arguments.

ⁱ Brumberg, Samuel R. 2005-2006. Getting The Camel Out Of The Tent: Behind The Federal Energy Regulatory Commission's Rise To Power And The Importance Of States' Continued Regulatory Oversight, William & Mary Environmental Law and Policy Review 30(691-730)

ⁱⁱ Similar utility issues of the linear conveyance of energy through a landscape are also involved with the siting of oil and natural gas pipelines.

ⁱⁱⁱ As detailed in one recent legal review of the subject, "all levels of government claim an interest in fracking regulation." Negro, By Sorell E. 2012. Fracking Wars: Federal, State and Local Conflicts over the Regulation of Natural Gas Activities, Zoning and Planning Law Report 35(2):1-14. See http://www.rc.com/documents/Negro_FrackingWars_2012.pdf

^{iv} That advocacy of home rule is sometimes contingent and strategic is suggested in the evolution of some policy makers' positions: "I used to think home rule was good enough," Robertson said. "I represent the Town of Dryden, where we fought hard – and are still fighting – for our own local ban. But every week we learn about new risks: seismic activity, high radon levels, and ground level ozone, for example. Not only do these dangers not respect county lines, much of the damage this industry causes is irreversible. It's not even possible to put a wall around the communities that think they have no other economic prospects. We are all in this together." See <http://www.tompkins-co.org/detail.aspx?ContentID=2032>

^v See Figure 12 in Phi Nguyen, Regulatory Options & Challenges In Hydraulic Fracturing, Texas Christian University WISE 2010, Sponsored by ASME; <http://www.wise-intern.org/journal/2010/PhiNguyenWISE2010.pdf> Nguyen also draws from U. S. Department of Energy, Office of Fossil Energy. "State Oil and Natural Gas Regulations Designed to Protect Water Resources." (May 2009) at <http://www.gwpc.org/elibrary/documents/general/State%20Oil%20and%20Gas%20Regulations%20Designed%20to%20Protect%20Water%20Resources.pdf> in a summary of state level oil and gas regulation: "Of the 33 states that currently have some form of oil or natural gas production, 27 have permitting requirements governing the locating, drilling completion and operation of wells; 18 require a list of materials used in the hydraulic fracturing process to be submitted to state agencies, 19 specify some of the volumes used, 22 require the reporting on treatment depths; 25 require surface casing to be set through the deepest ground water zone, 26 require cementing of the casing from bottom to top; and 26 states regulate waste management procedures, though none require a listing of the volume of fluid that flows back to the surface or remains in the formation."

^{vi} Outka, Uma. 2010. Siting Renewable Energy: Land Use and Regulatory Context, Ecology Law Quarterly 27:1041-1105.

^{vii} Hannah Wiseman. 2010. Regulatory Adaptation In Fractured Appalachia 21 Villanova Environmental Law Journal, 229(101-160)

^{viii} EPA is considering increased regulatory interventions in other areas as well, for example regarding air emissions, the use of diesel fuel as a fracking fluid, and wastewater disposal. EPA regulation in these areas would be welcomed in some quarters, but several oil and gas producing states voiced objections. See Negro (supra, note iii)

^{ix} See <http://www.platts.com/RSSFeedDetailedNews/RSSFeed/NaturalGas/8732954> and http://www.huffingtonpost.com/2012/01/19/dimock-pennsylvania-epa- n_1217422.html

^x See NYS Environmental Conservation Law §23-0303(2). Similarly, Section 602 of the Pennsylvania Oil and Gas Act provides that municipal ordinances may not "'impose conditions, requirements or limitations on the same features of oil and gas operations regulated' by the Act." Keneally, Michael E. and Todd M. Mathes. 2010. Natural Gas Production and Home Rule in New York State, New York Zoning Law and Practice Report 10(4):1-7. And regarding West Virginia, see W.VA, CODE § 22-1-1, *et seq.* (1994), and Ohio: Ohio Revised Code Section 1509 (ORC 1509).

^{xi} See <http://www.bloomberg.com/chart/iHa0mULW7AU8/> as well as <http://marcellusprotest.org/bans-and-moratoria>

^{xii} In New York, as of June 2012, two of these local laws had been upheld in New York's lowest court, and both had been appealed. See <http://drydensec.org/sites/default/files/MiddlefieldNoticeofAppeal.pdf>

^{xiii} Signed into law Feb. 14, 2012 in the midst of continuing controversy, Act 13 amends Title 58 (Oil and Gas) of the Pennsylvania Consolidated Statutes. Among other elements, Act 13 authorizes a drilling impact fee (Chapter 23) and limits the scope of local ordinances that place limitations or conditions on oil or gas operations. More explicitly, Chapter 33 (§ 3303) states that, "The Commonwealth by this section, preempts and supersedes the local regulation of oil and gas operations regulated by the environmental acts." Act 13 goes further in § 3304 (Uniformity of local ordinances) in requiring that all other kinds of "local ordinances regulating oil and gas operations shall allow for the reasonable development of oil and gas resources." Specific language prohibits local zoning and land use regulations on oil and gas operations from being "more stringent than [...] those imposed on other industrial uses or other land development within the particular zoning district" and requires that most oil and gas operation be "a permitted use in all zoning districts." See <http://ogf.boroughs.org/wp-content/uploads/2012/03/Oil-and-Gas-Act-Act13.pdf> and

https://www.puc.state.pa.us/naturalgas/naturalgas_marcellus_Shale.aspx An earlier description of Pennsylvania's regulations pertaining to shale gas operations is found in Pifer, Ross H. What a Short, Strange Trip It's Been: Moving Forward After Five Years of Marcellus Development (April 10, 2011), see http://law.psu.edu/_file/aglaw/Marcellus_Shale/Pitt_Law_Review_Article.pdf

^{xiv} See generally, <http://assembly.state.ny.us/leg/>. Specifically with regards to local control issues, for example, see

http://assembly.state.ny.us/leg/?default_fld=%0D%0A&bn=+A+8557&term=2011&Summary=Y&Actions=Y&Votes=Y&Memo=Y&Text=Y and

http://assembly.state.ny.us/leg/?default_fld=&bn=S05830&term=2011&Summary=Y&Actions=Y&Votes=Y&Memo=Y&Text=Y. Other state legislatures in and outside the Marcellus region have passed legislation clarifying state regulatory authority, though without the explicit attention to home rule. See

<http://www.nytimes.com/2012/05/31/business/energy-environment/seeking-disclosure-on-fracking.html> For Ohio, see http://www.legislature.state.oh.us/BillText129/129_SB_315_EN_N.pdf (especially Sec. 1509.03 – 1509.28)

^{xv} Ostrow, Ahsira and Patricia Salkin. 2009. Cooperative Federalism and Wind: A New Framework for Achieving Sustainability, Legal Studies Research Paper Series 10-08, Hofstra Law Review, Vol. 37, 101-150, see <http://ssrn.com/abstract=1529292>

^{xvi} Gish, Brian R. May 2011. Is FERC Backstop Siting Authority Still Alive? POWER p. 26 See www.powermag.com

^{xvii} Northey, Hannah. House bill would expand FERC's authority to site power lines Governor's Wind Energy Coalition, • E&E • Posted: Tuesday, November 1, 2011 at <http://www.governorswindenergycoalition.org/?p=253>

^{xviii} "Siting New Energy Infrastructure", Issue Brief, New York State Energy Plan 2009, December 2009, see http://www.nysenergyplan.com/final/Siting_New_Energy_Infrastructure_IB.pdf The Brief continues: "Similar to the siting of electric transmission facilities, approvals may be needed under federal law, and some may be issued by appropriate State agencies, such as air permits issued under the Clean Air Act (CAA) by DEC. Nuclear generating facilities require certain approvals by the U.S. Nuclear Regulatory Commission (NRC), while the siting of most hydroelectric generating facilities falls within the jurisdiction of FERC. However, the State often plays a role in these siting processes, such as undertaking a coastal zone Consistency Review and issuing Water Quality Certifications."

^{xix} Ramsey, Shane. 2005-2006. Power Plant Siting in a Deregulated Electric Energy Industry: Discerning the Constitutionality of Siting Statutes Under the Dormant Commerce Clause" Land Use and Environmental Law 21:91-114. Ramsey argues that certain state based restrictions on power plant siting would, if challenged in court, be found to be unconstitutional violations of "the dormant Commerce Clause".

^{xx} Blair, Adam. Understanding Article X of the Power NY Act of 2011, Community and Regional Development Institute, September 2011, See <http://devsoc.cals.cornell.edu/cals/devsoc/outreach/cardi/programs/land-use/loader.cfm?csModule=security/getfile&PageID=1024193>

^{xxi} See Garofano, Eric. 2011. Losing Power: Siting Power Plants in New York State, *Albany Government Law Review* (4: 728-757; and for an opposition perspective, <http://coaxny.org/power-ny-act-2011/article-x-and-the-resulting-loss-of-home-rule/>

^{xxii} Sovacool, Benjamin K. 2008. The Best of Both Worlds: Environmental Federalism and the Need for Federal Action on Renewable Energy and Climate Change, *Stanford Environmental Law Journal*, 27(397-476).

^{xxiii} Ostrow and Salkin's discussion of "cooperative federalism" advocates for a similar regime in the regulation of wind power. Intriguing other energy topics might range across such varied topics as carbon sequestration, offshore wind permitting, energy efficiency standards, surface and groundwater withdrawals for energy applications, nuclear and other hazardous waste disposal.

^{xxiv} Aspects of scale and diversity not fully drawn out in Sovacool's analysis that might be worthy of further consideration include the implications for a) transaction costs, b) political stability, c) enforcement capacity, and d) community social capital level, just for example.

^{xxv} As Woodrow Wilson wrote, "[T]he question of the relation of the States to the federal government is the cardinal question of our constitutional system. At every turn of our national development, we have been brought face to face with it, and no definition either of statesmen or of judges has ever quieted or decided it. It cannot, indeed, be settled by the opinion of any one generation, because it is a question of growth, and every successive stage of our political and economic development gives it a new aspect, makes it a new question." Woodrow Wilson, *Constitutional Government In The United States* 173 (Columbia Univ. Press 1961) (1908).