

Michael Gerrard: Thank you all for staying for our final panel of the day. My name is Michael Gerrard. I'm on the faculty here in the law school, and as you know, the topic for this panel is allocating responsibility among different levels of government.

We have focused on what should be the regulations. Now we're going to talk about who should be the regulator, although we have touched on that to a certain extent.

I'm going to begin with a brief overview of what is the current situation in terms of who regulates what, although I'll be able to do that fairly quickly because the prior panel touched on much of this.

And then Michael Burger from Roger Williams University School of Law is going to talk, then Mark Boling from Southwestern Energy Company and Deborah Goldberg from Earthjustice, and then we will have time for questions. And once again, if you have questions, please fill out a card and pass it to the people who will be passing through the aisles to collect the questions.

So in terms of what are the current rules at the federal level, first I'll talk about what is regulated and then I'll talk about what is not regulated. There was a recent amendment to the federal pipeline statute that expands the ability of the U.S. Department of Transportation to be regulating the – Not only the safety of pipelines but also leakage from pipelines.

USEPA recently promulgated standards under its National Emission Standard for Hazardous Air Pollutant program, which regulates the emission of certain kinds of regulated chemicals from oil and gas operations.

As Hannah noted, there's been litigation about the question of EPA's authority over contaminated storm water under the Clean Water Act, but it – EPA now does clearly have a certain amount of such authority over contaminated storm water from oil and gas operations, and EPA is now doing a study on what are the groundwater impacts.

Under the Emergency Planning and Community Right to Know Act, which is the 1986 statute that followed the Bhopal disaster in India and that is aimed at disclosure of the use and storage of certain toxic chemicals, the oil and gas industry itself is not

covered, but certain kinds of chemicals in use may have to be disclosed.

The Occupational Safety and Health Act requires that for the use of certain chemicals, material safety data sheets be made available. And they too are doing a, an ongoing study on the health and safety impact of these operations for the workers.

The Federal Hazardous Materials Transportation Act broadly covers the hauling of significant quantities of many regulated substances, including possibly some of the fracking materials.

Continuing in the West, a considerable amount of fracking activity takes place or is proposed along, in Federal lands. And so that is regulated under the Mineral Leasing Act and the Federal Land Policy and Management Act.

Activities under those statutes are in turn regulated under the National Environmental Policy Act, NEPA. And just about a week and a half ago there was an important decision from a Federal district court in the northern district of California finding that the Bureau of Land Management should've done a full environmental impact review of a proposed set of leasing of lands for hydrofracking operations. And so it'll be interesting to see how that plays out.

And the – And assuming that that's not overturned on appeal, the resulting Federal environmental impact statement could be quite interesting.

And finally, the Federal Endangered Species Act has the potential to play a role here to the extent that any of the fracking operations occur within designated critical habitat of listed species.

So those are some Federal statutes that do apply. Federal statutes that don't apply, or at least that don't apply fully, as has been remarked. CERCLA, the Federal Superfund law, has an explicit petroleum exclusion, but it's only for petroleum and petroleum products. It does not include contaminants that come from some other source.

So to the – If you have a spill that has oil in it but also has some frack fluids that may be themselves hazardous substances under CERCLA, that, one would think, would not be excluded.

The Resource Conservation and Recovery Act, RCRA, ordinarily does cover petroleum waste, unlike CERCLA. But there is a special oil, oil-filled waste exclusion. Most well know, the Safe Drinking Water Act, has a 2005 amendment which is known to those who don't like it as the Halliburton Amendment, that exempts the underground injection of fluids or propping agents for hydraulic fracturing from, from this very important groundwater protection program.

It does not apply under its terms to diesel fuels, and so there's rule-making on the regulation of use for diesel fuels. And as has also been remarked, this is for the, the fracking process itself. It is not for the disposal of the waste generated by the fracking process.

So those are Federal laws that do and do not apply. At the state level, and we've, we've heard some of this, there is no Federal preemption of states in the sense that states are not prohibited from being more stringent than the Federal government. There's floor preemption, they can't be less stringent, but they, they are free to become more stringent if they want.

There is a good deal of litigation going on now about the relative role of the states and local governments and the extent to which local control is preempted, and Deborah Goldberg is gonna be talking about that in detail.

A number of states have adopted moratoria on, on hydrofracking. And as we've also heard, states often regulate other aspects. The, the, the drilling process, the, the construction of wells, the spacing of wells, where they can be located, the kinds of disclosures that are necessary. The withdrawal of water is part of the process.

And states may, but few of them regulate fugitive emissions of, of air, and few if any regulate lawful activities, like all the truck traffic that takes place on state roads and local roads that results from the way that fracking is done in haul, particularly in hauling water in and out.

So those kinds of externalities, there really isn't a mechanism for effectively regulating those.

So the final thing I wanted to say is that there has been a fair amount of litigation on fracking. I think there is much more to

come. Our Center for Climate Change Law recently put out a survey, which you can find on our website, where we looked at all the regulate – All the litigation on hydrofracking.

One thing that we found is that although there had been quite a few lawsuits, typically by neighboring property owners claiming various injuries, negligence, nuisance, trespass, strict liability, and fraud, various kinds of theories, we were unable to find any judgments in favor of plaintiffs in those cases.

Now, there are a number of sealed settlements, so we don't know whether money was paid out as part of those settlements. But there haven't been damage awards for toxic torts resulting from hydrofracking, nor have any class actions been certified. There have been a number that have been brought.

There is also litigation on the extent of municipal authority on the nature of the mineral estates, and I expect that there will be a lot more of that in terms of who owns the surface, the subsurface, what happens under those circumstances.

There certainly is emerging litigation over leases and whether a lease has run out, who has to pay what. There is some emerging litigation on the disposal of the waste materials. Several cases, and I just mentioned one, under the National Environmental Policy Act, and some emerging litigation under the Clean Air Act and the Clean Water Act.

So this has been a somewhat fertile area of legal activity, and we expect that there is going to be considerably more going forward.

So I'm now gonna turn it over to Michael Burger from Roger Williams University School of Law.

And this should go straight to you. There we go.

Michael Burger:

Thank you. Well, thank you, Michael, and thank you for bringing me here today. It's nice to be back at Columbia. I think I took Corporation sitting right where you are, so it's nice to be back here on this side of the podium.

So we've had a lot of really informative discussions today and a lot of information presented. I was once upon a time a lawyer, and so what I'm going to do is present an argument to you, and my

argument is that the appropriate allocation of authority in the area regarding fracking is at the Federal level.

So recently the Harvard historian Niall Ferguson announced that fracking will usher in a new golden era for the United States. I certainly hope that this is true. But however big the fracking boom is and however big it eventually turns out to have been, it should not come at the expense of public health and the environment.

My argument is that in order to avoid making what seems to me to be unnecessary tradeoffs, fracking regulations should be regulated under the existing cooperative federalism regimes created by our nation's environmental laws, including the Resource Conservation and Recovery Act and the Safe Drinking Water Act.

In order to make this argument in under 15 minutes I'm going to just focus on one issue, and that's the issue of groundwater contamination and the Safe Drinking Water Act.

So I conceive of the question that this panel was charged to address as one of federalism choice. And by federalism choice I mean to talk about the fact that legislators and regulators have options available to answer a basic question: Should regulation of a given activity or the impact of a given activity flow from a global, national, state, or local level?

There are a number of different traditional responses to this question. There is the dual – Two of them are the dual federalism and cooperative federalism models.

Dual federalism is frequently invoked in Supreme Court and other judicial opinions on federalism questions. It emphasizes the conflict between state and Federal governments. It poses that the Federal government is one of limited powers and purposes, and maintains that the states and the federal government are fully sovereign within their separate spheres.

Cooperative federalism, by contrast, derives from statutory rather than constitutional origins. It emphasizes the cooperative relationship between the state and Federal governments. It views the Federal government as one of expansive powers and purposes and sees that the states and Federal government have areas of different authority and also areas of overlap.

A third response is the matching principle, and the matching principle poses, posits that the jurisdictional level should match the scale of environmental impact. And the reason for this is so that the costs and the benefits of regulation should match.

Another approach to answering the federalism choice question examines a number of factors that have been theorized to justify allocating authority at one scale of authority or another. Here we can see the values that are typically thought to justify allocating authority to the Federal government. Addressing environmental externalities, countering a race to the bottom among jurisdictions competing for business, the efficiency of uniformity for industries that can benefit from a national market, a uniform national market, pooling resources for information and knowledge, the ability to generate greater participation by different interest groups, and responding to national moral imperatives.

Here we can see the values that are typically thought to justify allocating authorities to the states, and Tom went through a number of these earlier on today, so I'm not going to repeat them here. But what I am going to do is I'm going to focus on those decentralization factors or values that are relevant specifically to fracking.

The first is this idea of local tailoring. So state regulation allows the regulators to tailor their decisions to both local environmental conditions and local democratic political preferences.

A second value is this idea, Justice Brandeis's famous account of the idea of states as laboratories for democracy. State level regulation theoretically produces a diversity of regulatory and technological responses and allows the states and the Federal government to learn from this, to learn from this experimentation.

The third idea is increased democracy. State regulation arguably allows for greater citizen participation and great voice.

Finally, the matching principle is back. At least some people have argued, and some have argued today, that current knowledge has it that environmental impacts resulting from fracking are primarily local in nature and therefore best belong at the, at the state level.

Importantly, these are not necessarily the same arguments that are made by political proponents of state regulation of fracking.

This is a too-wordy slide and I don't expect you to start to read it, so I'm gonna tell you the five most important things that are evident here. These are five of the arguments that are typically put forward by political proponents of state-level regulation.

Fracking has been around for a long time and it's environmentally safe. There are no instances, no known instances of groundwater contamination, and that zero number is very important in the political sphere. States are already regulating fracking in their existing oil and gas regulatory programs. Valuable geology and geography requires state expertise and local knowledge. And finally, Federal regulation will add costs, reduce the number of projects, and thereby threaten our nation's energy security.

We've heard quite a bit today that can help inform your own responses to those. I myself do not find them particularly persuasive, but that is not the argument that I'm here to make. I'm here to make a affirmative argument in favor of federal regulation.

So I think that there are three points, really, that favor federal, federal regulization, federal, federalization of regulation when employing this federalism choice analysis.

First, the theoretical benefits of state-level regulation are captured by the cooperative federalism regimes in which states assume primacy of regulation by developing approvable programs. Primacy allows states to actually tailor their regulations to local conditions and to local political preferences. And primacy combined with the performance-based minimum standards that are actually established under the Safe Drinking Water Act allow for experimentation to continue.

Second, the Safe Drinking Water Act reflects existing choices regarding the interstate nature of drinking water impacts and the national concern for drinking water quality.

And third, the rapid development of fracking in the last 15 or 20 years has raised new concerns that implicate federal interests.

So you saw this map a little bit earlier during Hannah's presentation. The SID was designed to empower states to assume control over regulation. The majority of states have done so either completely or else in part. There are only 10 states where the EPA

has the sole authority to regulate under the Safe Drinking Water Act.

In addition, 23 states have primacy to regulate under the Class II UIC Underground Injection Control Permit Program. Only six shale gas producing states have Class II UIC programs that are, where the EPA has primary authority. And you'll note that Pennsylvania and New York are two of those.

So in any event, the decision whether to have primacy or not resides primarily with the states. The criteria for program approval are set forth clearly in the SDWA and they do not appear to be overly burdensome. In part, this is because the SDWA establishes these minimum requirements. That is to say, it sets regulatory floors below which states cannot go rather than preemptive ceilings which they cannot surpass.

As a result, regulating fracking under the SDWA would not preempt states or localities from enacting moratoria or bans, nor would it prohibit other experimentation that might lead to greater levels of environmental protection.

Moreover, the SDWA and its regulations do not mandate specific requirements in many instances, such as casing and cementing depths. Rather, it establishes performance-based standards that are geared to prevent the migration of toxins into underground drinking water supplies or else just to the prohibition against the endangerment of underground drinking water supplies.

So this means that there will be – It still allows for continued regulatory diversity.

However, what the standards that the SDWA and its regulations would do is fill some of the existing regulatory gaps, such as we see here, where the majority of states have no setback requirements from drinking water supplies.

And we also see this here, where you can see that many states have no requirements for what kind of cement may be used in a fracking well.

So the filling of these regulatory gaps is important because the SDWA itself embodies existing – Important preexisting federalism



choices that were made about drinking water in America not too long ago.

The SDWA itself, the history of the SDWA itself is revealing in this respect. It was the – The original legislation regulated from an increasing national concern associated with incidents of water-borne illness, the publication of the Community Water Supply Study, which demonstrated that there was ample and widespread failure of the states to adequately regulate drinking water quality, and the publication of reports by the Environmental Defense Fund and the EPA that documented the risk of exposure to carcinogens in water.

It's also evident in the legislative history of the act itself, which over and over and over again states that its main purpose is to balance the power between the states and the federal government while establishing minimum standards for the protection – Minimum national standards for the protection, protection of public health.

So like our other major environmental statutes, the Clean Air Act, the Clean Water Act and RCRA and others, the SDWA reflects the conclusion that even where specific environmental impacts are highly localized, they are nonetheless quite possibly and most often of national concern.

So finally, fracking raises new concerns that within the federalism choice framework support the federalization of regulation.

Cumulative impacts. Hannah touched on this a bit before and she has written about this in greater depth, but the basic idea here is that the drastic increases in the number of wells in the country in recent years, number in the tens of thousands per year. This increase is continued to, is expected to continue for some time, and the equation is simple. The more wells there are, the more likelihood there is that there will be either incidents of direct interstate pollution or else cumulative impacts that warrant a federal response.

The rural impact's point is, you know, a little bit trickier for me. I'm not here in New York City down from Providence, Rhode Island, to speak for the rural communities of the United States, but I will share a story.

So last week, last weekend I was having dinner with one of my neighbors for the first time. We hadn't ever really met before or spent any time together. And as we were getting to know one another, that I'm coming down here to talk to you guys came up. And she said "Oh. Well that's really interesting. I just moved here six months ago from a rural community just outside of Dimock, Pennsylvania," one of the places that you hear alongside Pavilion, Wyoming, as kind of the anti-fracking movement's go-to places, where there may be some evidence of groundwater contamination.

And her story was interesting to me. She was living there on a plot of land where a family owned a number of houses. There were four different houses that they owned on the land and she was renting one with her daughter and husband. The landowner held out as long as possible from selling these rights to the fracking companies. Eventually all of his neighbors, all of their neighbors had sold, so they were in the position of gaining none of the benefits and still absorbing all of the costs of holding out, so they decided to sell.

And it was basically at that point that my new neighbor decided to leave, and she was talking about the impacts on the community that she had witnessed, including the influx of workers from outside of the area, the stresses that this placed on the public school system, on other social services. The changes to the landscape. And then ultimately the threat to the public health, that sense of dread risk. "We don't know how serious the risk is, but it's a – It's, it's, it's a risk of something that's quite catastrophic in our minds."

So they picked up and left. They were lucky. They had mobility. A lot of people don't.

So in theory, fracking should be federalized to address environmental externalities associated with the process, to protect against a potential race to the bottom or the failure of state governments to adequately insure against the risks, and to address the national concern surrounding drinking water, public health, and the quality of rural communities.

So there are many political arguments that have been offered to counter the arguments put forward by the pro-states advocates as well. I'm gonna talk about, briefly, about these three legal arguments that have been forward – That have been put forward.

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First – And the basic idea here, right, is that prior to 2005, fracking was underground injection that should've been regulated under the SDWA and it was not. This was the decision in the two LEAF cases from 1997 and 2001, where the 11<sup>th</sup> Circuit found first, that fracking was underground injection under the plain meanings of the Safe Drinking Water Act, and second, that fracking wells are Class II wells that must be regulated as such under that act.

So then we added the amendments to the SDWA in 2005, and a – You know, after reading through much of the legislative history, there's very little discussion of the federalism values that that amendment was meant to represent.

In 2009, the Frack Act was proposed. Never got out of committee. But the purposes of the proposed Frack Act was to undo the 2005 amendment and bring fracking back, back under the Safe Drinking Water Act.

Now, the Center for Biological Diversity vs. the California agency whose acronym you see before you was filed very recently. And this represent – Is the first of what may become a slew of cases challenging the failure of states to regulate fracking under their own state regulatory programs, the baby SDWAs, or the other regulatory programs that they had in place.

The particular argument here is that California's existing underground injection control program was more protective than the SDWA and by not regulating fracking, they were violating their own regulations.

So finally, this is a slide that recounts some of what Michael said just a little bit before. To a certain extent, fracking is already being federalized to an extent that it was not even just a year ago. Here are a number of the things that have already, you have already seen sort of restated.

So in sum, in short, sorry. The regulation of hydraulic fracturing properly falls under existing cooperative federalism regimes. But for the legislative and regulatory exemptions that appear to limit the levels of protection and insulate industry for disclosure requirements, there would be far less controversy surrounding this topic.

Finally, I just want to touch on the EPA study that's forthcoming in 2014 briefly. There is some perception out there that this study is going to help us decide who should be regulating drinking water, the potential for, the potential for drinking water contamination.

This idea is misplaced for two reasons. First, on a practical level, EPA can conclude that there is a high likelihood that fracking leads to drinking water contamination, and that won't do anything until Congress amends the, the SDWA. And given the fate of climate change legislation and given the fate of the highly popular, far less controversial gun legislation this week, I think it's highly unlikely, if not impossible, that they would do so.

Second, on a theoretical level, it's asking the wrong question, right? The EPA study is designed to determine whether or not fracking endangers drinking water supplies. That determination is a determination that is made as a matter of course under the Safe Drinking Water Act.

Thanks very much.

Mark Boling:

Okay. Okay. Perfect. Thank you, Michael and Michael. Let me first say that I'm gonna disappoint everybody that's expecting a point-counterpoint rehash like the old Saturday Night Live skit, where somebody comes up and says "I believe in federal" and then I say "You ignorant you-know-what," and say "State." I'm not gonna go there because I don't think that's really the, the – Really what the question should be. I'm gonna take the 64,000-foot view and just say well, if somebody came up and said, "Well, how do you think it should be regulated?"

And to answer that question, I think you really have to answer two related questions to how should hydraulic fracturing be regulated. The first is what should be regulated, and the second is who is in the best position to, to regulate that.

So if we take a look at the first question, what should be regulated, I think a previous speaker had broken it down into surface and subsurface considerations, and I'm gonna do the same thing.

And what we're gonna attempt to do is – And we've been at this for some time, so I'll give you the punch line already. We've, we've worked with a number of groups to identify what these are. But what we are attempting to do is identify those activities that

either by themselves are inherently will subject either individuals or the environment to potential either economic or, or environmental damage, or if some negative event happens that, that that could create problems for individuals or the environment.

And so if we, if we kinda take a look at what the subsurface considerations are, we broke them down into protecting underground water resources and frack fluid disclosure. And what you've heard several times today in terms of protecting underground water resources, really, we've identified well integrity is, is, is the very important thing there to get right.

Casing and cementing requirements, pre-drilling water sampling requirements, real-time, real-time monitoring the frack jobs. And, and regulations that require operators to, to do it right because it can be done right.

And then in terms of the frack fluid disclosure, of course, who's required to disclose? What is it that they are required to disclose? At what level?

And, and I will be the first one to tell you that it's great that the states have stepped up and, and have been able to fill this void in regulation that unfortunately hasn't, wasn't able to be handled elsewhere. But all disclosure regulations are not created equal. Some of them will have full disclosure and others are MSDS level, what I call OSHA disclosure, which in my opinion, not necessarily shared by everyone in my industry, is not sufficient. It needs to be full disclosure.

And also there are certain – Is the governor still here? Good. I can talk bad about him then. No. I'll talk bad about his regulations.

I think one of the problems that, that Wyoming had, they didn't realize it, is, is, that they, they decided they wanted to have the ingredients and the chemical, chemical ingredients down to the level of, of exactly what is this additive.

And, and that's really – If you don't do that, and we talked to some of the, some of the companies that provide the services, I think wrongfully a lot of people think it's the operators that are having the problem here. It's not the operators. We'd just as soon have them disclose everything. But it's the Halliburtons, it's the Schlumbergers, it's the Frac Techs of the world that, that say they

have this secret sauce, and whether it really is or not, I can tell you we really never made a decision on whose secret sauce it is and who's, who's available. And, and it's all about price, okay?

But they're, they're, they're very concerned about that, and what Wyoming did is they said, "We not only want you to tell us what all the chemical ingredients are, we want you to identify each one of the additives."

Whereas if they'da just said, "I want to know what all the chemical ingredients are that make up this stuff," it wouldn't be a big deal. You wouldn't have all of these complaints in Wyoming on – Or you shouldn't, on what the trade secrets are, because no one could reverse engineer that. You still know what all the chemical ingredients are that's going down there, but you can't point it to each one so somebody could re, re, reverse engineer that.

So, so let's take a look above ground. Surface considerations. Certainly we have air emissions. We've talked about air emissions in the context of combustion sources as well as fugitive emissions, venting, leaks.

Water. Water is really broken down into water supply. I know we had another gentleman here this morning who said "Hey, gee whiz, we don't use that much water. You know, less than 1 percent." Well, that's less than 1 percent of the issue. You really need to look at – And if you talk about the people that are concerned, it's about timing, location, and rate, okay?

I mean it, it doesn't help to just say it's less than 1 percent. It's where is that 1 percent coming from, when is it coming from there, and it's, and it's about the, the location. So you have to talk about that. And cumulative impacts. It may not be a whole lot individually, but cumulative impact, you have to consider those as well.

Water handling. How does it get from the location where you're getting it to the, to the drilling location and, and how does it get back? And in terms of water reuse and disposal, what are the treatment requirements? Certainly there were things done in Pennsylvania that shouldn't have been done. There was water that was moved to POTWs that had possibly – It couldn't possibly had - It didn't have the, the ability to get those TDS out of there. It created problems with disinfectant byproducts. Things that just

shouldn't have happened. And, and I think the EPA's gonna handle that with their pretreatment standards when they come out.

So, and then of course surface impact. And here's one of the things that I know Deborah's gonna talk about this. I, I – A lot of – I mean, air emissions, water contamination, those get a lot of the press. What doesn't get a lot of the press is things like truck traffic, road damage, compressor noise, things that people out in the field have to deal with every day.

And that's what we get most of our complaints about, quite frankly, is, is trucks moving up and down the road. Dust. And people that can't get out of there, get out from their chip-seal roads that are terrible, terrible roads just made worse by our activities. Because we do move a lot of trucks up and down those roads, and when we do, there's no question that there is, there is damage.

So it, it's – I guess I bring that up for one reason, and that is it's very difficult for me to see how one could say with a straight face that the local community shouldn't have some say in, in how this is done. That just boggles my mind.

I, I know that it's fair for industry to say yeah, I, I would like to have some certainty with, you know, what the regulations are. But I just don't see how you can say "Well, we just oughta let the folks in the state capital decide what it is and, you know, all these folks there locally, that's the way it goes, folks." I don't buy that.

So if, if we've decided now – And, and I'm gonna have you assume that I've identified all of them, whether I have or not, you can just keep that to yourself or throw rocks later, I don't care. Is, is that the second question is who should regulate that?

Okay, here's what, what needs to be regulated. Now let's see who's in the best position to regulate that. I'm not gonna say who it is. I'm gonna give you five what I think are criteria that – You just got done looking at what I say are the real issues that need to be regulated. You decide for yourself if these are the right criteria or not. Let's assume that they are. How should they, who should regulate that?

Number one, are the impacts of the regulated activity local, regional, or multi-state in effect? Okay? Are the risks associated

with the regulated activity the same from state to state? That's really one side of the coin.

The other side of the coin is number three. Are the proposed solutions for effectively managing these risks the same from state to state? And why that's important to look at both sides of that coin is because you could say in question number two, well, making sure that you have the freshwater aquifers properly sealed and, and so you don't have any contamination, that is clearly under two. That's true everywhere.

But is – The way you can make sure you don't have that problem, is it the same in northeast Pennsylvania as it is in southeast Ohio or as it is in Colorado or in, in Arkansas? And, and I would suggest to you no, that it's not.

Four. Does the regulating authority require any special knowledge or expertise concerning regional or local conditions in order to effectively regulate the activity?

And number five, are there any federal/state or state/local preemption issues? I put that last because I think it deserves to be last. That's not the, in my opinion, the real issue. What we should be looking at is really what the activity is and how best to regulate it, and then figure out that part later.

So having figured that all out, it should be very easy to regulate, right? Well, wrong. Because what we have here is, in my opinion, I call it the perfect storm, and there's four contributing causes to the perfect storm. We've created a regulatory environment that, you know it here in New York, is virtually impossible to get, I think, good regulations passed for a number of different reasons.

First is public distrust and fear. I'd say number one, it's an understandable fear of the unknown that the public has. We have not done a wonderful job of, of informing the public in terms of the industry. And quite frankly, that understandable fear has been fed by what I believe is a real misinformation campaign by a lot of folks.

And then there's distrust of the, of the industry, largely because of the Macondo disaster and quite frankly the abysmal job that we did in, with respect to the frack fluid disclosure issue. I mean, that was



ridiculous. It continues to be ridiculous. And why, why would I trust an industry that appears to be trying to hide something?

So you know, we've got ourselves to blame on that distrust part in my opinion.

Secondly, certain environmental groups – And I, I focus on certain because there's a lot that aren't that way. But there, there are some folks that, that have been waging a, this misinformation campaign that I'm talking about that does generate a fear-based emotion level within the public that, that we haven't figured out in industry yet, that if someone is afraid for their well-being, their water, etc., it doesn't matter whether the physics of it say this or that. You're trying to solve a right-brain problem with a left-brain solution, and we have not figured that out yet. Is that – And I'll go into that a little bit later in my last slide, as long as I have enough time.

But, but the whole, the whole point is is that folks do have a legitimate concern about their water, their air, and the land that they've lived there for a long time. And, and unless we are, do a better job at really what I call stop minimizing the concerns of the public and start addressing what the real risks are and what we're doing to try to mitigate the risk. No one likes to have their concerns minimized. That's just human nature.

So the natural gas industry. What have we done? Well, we've, we've continued to beat the drum of “Hey, we've done this for 60 years without a problem. Don't regulate us out of business.” And we lose credibility every time those statements are made because what we did 60 years ago doesn't even closely resemble what we do today, and we gotta stop doing that. And I've said that and of course nobody's listening. But, but that's, that's the way I feel about it.

And we also, we, we failed to answer the question. Okay, if it wasn't hydraulic fracturing that caused methane to migrate in those wells in northeast Pennsylvania, in Garfield County, Colorado, in Quebec, in Bainbridge, Ohio, then what was it? Well, we just said “Well, it's not hydraulic fracturing.”

We created an information void that was clearly filled by those who just said “Hey, if these dummies aren't gonna say it, then we'll, we'll say it's hydraulic fracturing. It's gotta be.”

Well, it, it may not have been hydraulic fracturing, but it sure had something to do with drilling. So why didn't we just step up and say that? We had a problem with well integrity. We had a problem with channeling and the cement. We used the wrong cement formulation. We should've put a gas block additive in it. We should've set an intermediate string of casing. We should've done a number of things, but we didn't. We left that information void out there.

Thank you.

And unfortunately we are continuing to pay for it.

And then politics guiding policy, and I, I say this, then I cringe and think, "Ah, what a dummy," because you're gonna say "Well, that's, that's just really not realistic." But really there's no room for politics in regulating shale gas development. We really need to do things based on sound science and accurate risk assessments. But I mean, it's, it's gonna take awhile before, in some areas, we'd be able to reach that, that level.

So what are we gonna do? We gotta refocus the debate by dialing down the rhetoric, identifying the real obstacles to responsible development of the resource, and develop workable solutions. And what is that gonna come up with? In my opinion, what it's gonna come up with is what I call smart regulation.

What is smart regulation? Smart regulation is really, it's all about effective risk management. And effective risk management is that kind of management that strikes the appropriate balance between the economic, environmental, and social impacts of our activities, right?

And, and that's what we, we need to be focusing on. And I think one thing that we also don't get is this is nothing different than what our industry and other industries do contractually. It's all about risk management.

I asked somebody who said, "Well, what are you talking about? Regulators trying to take care of risk and manage risk?" I said, "Hey. If you do an acquisition agreement but you're gonna buy a house, you're gonna buy a new building, aren't you gonna have a section in there that has representations and warranties, and aren't you gonna have covenants and, and all that where your alloc" –

“Well, of course I am.” “Well what, what do you think the government is trying to do?”

They’re trying to do the same thing. They are trying to identify those risks and effectively manage it by assessing the probability of them happening and, and what’s the impact of that risk.

What we don’t get is that there is a big difference between actual risk and perceived risk. And what do you think public policy and public opinion are driven by? Perception. It’s not reality.

And so we need to understand that and we need to understand that when there is a huge gap, as I believe there is here, between actual risk and perceived risk, development of smart regulation that strikes that appropriate balance is impossible.

So how do you get that to happen? In our opinion for Southwestern, collaboration and risk communication. We reach out to the folks that, that, you know, that, that say they don’t want us in business. But we have to sit down and, and, and talk to them and, and have problem solving dialogues about what, what the real risks are and what we plan on doing about it. And in that case, you can have smart regulation and that’s the only way I think you’re gonna really have public trust and acceptance of hydraulic fracturing operations.

Thank you very much.

Thank you.

Deborah Goldberg: Happens all the time. Okay. Well, by my count, if I take my full 15 minutes there’s gonna be no time at all for questions, so I’m gonna try to shorten this a bit. And to do so, I think what I’m gonna do is vastly abbreviate what was going to be a somewhat extended discussion of current litigation here in New York. And if there are questions about it, I can address it during that period.

Instead I’m gonna focus a little bit more sort of on the landscape nationally with respect to local control and talk a little bit about some of the policy questions that have arisen during the course of the, the previous two speakers.

As you will probably see, there's not a whole lot of disagreement among us as to the allocation of authority. I'm just gonna focus a little bit more on the, the local concerns.

So there are multiple sources of local authority, but they're all state law. They can be constitutional sources, they can be statutory sources, and they can be judicial decisions. Under state constitutions there are often specific home rule provisions that authorize localities to exercise power with respect to local concerns. Those home rule provisions generally recognize that the local powers are subordinate to state powers on the same subject matter, and so sometimes there's litigation about whether or not you're regulating the same subject matter.

The substantive to pass as concerns come in more indirectly. In Pennsylvania, the legislature recently passed a law known as F13 that actively directed localities to adapt zoning regulations authorizing oil and gas development in every single zoning district. Residential, commercial, industrial, you name it. There's no longer any distinction with respect to the principal oil and gas facilities in Pennsylvania under Act 13.

There were a number of municipalities and others who successfully challenged that provision, arguing that it forced the municipalities to violate the private property rights of their residents. The idea in this case was that by requiring incompatible uses, such as oil and gas wells and residential housing, in the same district, the zoning could not be justified as a legitimate exercise of police powers, which is the only permissible justification for limits on property rights under the Pennsylvania constitution.

So there are these two constitutional provisions. The state statutes often have implementing provisions for the constitutional home rule provisions. They also are sometimes specifically directed at the oil and gas industry itself. So for example, in Illinois, municipalities have express veto power over the siting of oil and gas wells within their borders. If they don't give permission, the development does not happen.

And finally, of course, if there is a question about whether or not the locality has the authority under state law, then ultimately the courts are the ones who decide what the scope of local power is.

Across the country, given all these various different competing sources of local authority, there is a very wide spectrum of state versus local authority. It runs from the local right to do extensive regulation of the industrial operations themselves, additional permits, additional setbacks, local bans, to something like in Pennsylvania, where the localities are completely deprived of any control whatsoever other than those established by state law.

It would appear to be the case that the states that have long histories with oil and gas development are more tolerant of the industry, and states that have more diversified economic bases are more comfortable with allowing higher levels of local control.

States that are or feel themselves to be heavily dependent on extractive industry for jobs and revenues are more likely to weigh very heavily the industry's claims that they need uniform regulation and unimpeded access to the regulation. To the resource. Regardless of local concerns.

So these policy considerations do get taken into account by the courts when there are preemption decisions interpreting state law because typically as you interpret the statutory language, you also look to legislative policy and purposes, and these concerns come into play at that time.

The, the disputes about state and local authority across the nation are nothing new, but there have been a raft of new cases recently in response to concerns about the much more extensive impact of high-volume hydraulic fracturing required for the extraction of shale gas.

And so I'm gonna talk briefly about litigation in four states: New York, Colorado, Pennsylvania, and Ohio. Colorado, which I was going to start with notwithstanding my slide, is introduced a distinct – Fundamental distinction between regulating the technical operations of the industry and regulating land use. And it used that distinction to authorize not complete bans, but local zoning controls or local regulation of land use and local regulation that does not intrude upon the technical operations regulated by the state.

There are currently – Currently there is litigation arising out of the attempt of one locality not only to do some additional regulations but also to impose a ban that's pending, and we'll see how that

goes. But the, the Colorado statute, precedents are not favorable to, to local bans.

In Pennsylvania there is a very similar jurisprudence, more recent, drawing on the same fundamental jurisdiction. In enacting Act 13, the Pennsylvania legislature effectively overrode that jurisprudence and in place of the right to determine at least in which local zoning districts you would allow oil and gas development, there is now no local control whatsoever under the statute.

That provision has been struck down by an intermediate court, has been – Argument has been heard by the state Supreme Court and sub judiciary and we're awaiting a decision in that case.

New – In Ohio as well, there is a history of the same fundamental distinction between regulating operations and regulating land use. The Ohio legislature similarly has repeatedly revised its preemption clauses within the oil and gas statute to tighten that up more and more, to the point where it's looking like there's very little left of local control.

There is a case out of the city of Monroe Falls that has been decided, again, by an intermediate court. There is current – Which struck down most of the regulations except those that were entirely uncovered by the state statute, including things like public hearings and other procedural requirements.

That – There is a motion for leave to appeal to the Ohio Supreme Court, and we'll see whether or not the court takes that case.

Here in New York there have been four recent cases challenging either outright bans or moratoria on oil and gas development in local towns under the state, under state preemption claims, both express and implied.

All four of those cases rejected the preemption claims in New York, drawing upon strong analogous authority precedents from our highest court, the New York Court of Appeals. In an analogous context, addressing preemption of extractive industry, you know, sand and gravel industry, and ruling again, using that same distinction between technical operations and land use, that the Mined Land Reclamation Law does not preempt local control.

And for the same reason, the Oil, Gas, and Solution Mining Law does not preempt local bans or moratoria on oil and gas development in, in New York state.

So I'm going – I'm not going to go through in great detail the arguments with respect to express and implied preemption. I'm happy to talk about those in greater detail if people are interested.

I should, for purposes of full disclosure, let people know that Earthjustice is representing the town of Dryden and defending against challenge by industry to its local ban. And it feels very strongly that in its – In the town, which houses – Which is a rural town in upstate New York not too far from Ithaca, New York, and which these town supervisor likes to describe its heaviest industry as agriculture, they would like – They believe that they have the authority under New York law and, to decide for themselves whether or not these industrial operations come through.

They have never allowed heavy industry. No other heavy industry thinks that it has the right to dictate to them whether or not its facilities come, come into the town borders. And we are hopeful that the third department, which recently heard appeal of this case, will affirm the decision below.

I'm not suggesting that the state legislatures never have the right to preempt local zoning. Clearly the legislature in the state of New York and other places has done so. It has done so with respect, for example, to hazardous waste facilities or power plants. But when it does that, it typically substitutes formal procedures to protect the local interests that are commonly protected by local zoning.

So you'll see notice provisions, you'll see public participation provisions, you'll see requirements for actual factual findings about avoidance of concentration of burdensome facilities in particular communities. You see none of that in the Oil, Gas, and Solution Mining Act, which suggests that is not the intention of the New York legislature to preempt in this particular context.

So finally, I would argue that the appropriate regulation of this industry among the various levels of government is not too far from what we've already heard from the previous speakers. I do believe that the federal government should be setting an environmental floor. This, this is the idea of cooperative federalism that Michael Burger talked about.

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If there is development permitted in the state, there may be reason why the state should be preemptively responsible for technical regulations. Typically local governments do not have either the resources or the capacity to hire the people with technical expertise properly to regulate and monitor and enforce compliance as the state does, particularly if there's a layer of federal oversight underneath there.

But those state programs can and do coexist with local regulation of land use, and in, in – The wide diversity across the country shows that local communities are quite, approach this quite differently. This is not a situation where localities uniformly are trying to zone this out. And so it is appropriate to see to the democratic process, allow localities to decide whether and where they will allow these facilities, and there are much better – Their local representatives are much better to take their local concerns into account than either the state or the federal government.

So I'll stop there.

Michael Gerrard: Thank you. We have time for maybe one question. The phrase "Fukushima risk" was mentioned earlier. What is the Fukushima risk for hydraulic fracturing? Can it be regulated without killing this industry? If so, how?

Mark Boling: Well, I talked a little bit about dread risk, so I guess I'll take a first stab at this, though I imagine others will want to respond too.

I think the Fukushima risk here is just drinking water, impacts to drinking water. That that's what people are most scared about. There are all kinds of other environmental impacts that we've talked about today that are just as serious and perhaps much greater risk or, I mean, I would say are much greater risk. But it seems that, at least in my understanding, that that dread risk of drinking water contamination is, is prevalent among those who are most opposed to this.

It can be managed. I think that the cooperative federalism regime of the SDWA would get rid of a lot of that fear, as would increased disclosure, which is already happening. And as there's more disclosure and as there's more regulation, the fear will abate.

Michael Gerrard: Say a word?

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Michael Burger: Okay, good. I, I don't know that I, I can identify really a Fukushima risk because I don't, I don't see any of the, the risk associated with conducting hydraulic fracturing operations to that level. Because I do think everything can be, can be handled if done properly.

However, the one thing that I would say may be a long-term – I don't believe we'd call it a Fukushima risk, but a, a legitimate question that should be talked about, and that is if – And I'm sure a lot of you are thinking about it, especially if somebody in industry is thinking about it. And that is if this is so successful and natural gas continues to be a inexpensive fuel choice, it will then ultimately defer a lot of investment in renewable. And ultimately even though it's better than coal, if it continues to be natural gas for a very, very long time is the net result, from a climate perspective, a negative.

And it, that's, that's kind of the elephant in the room, I think, kind of a risk associated with that. Even if everything is done right, everything's successful and natural gas stays low, is that really ultimately what we want to have happen?

Deborah Goldberg: I would agree with both of those to some extent. I do think groundwater contamination is a serious concern. I don't think that if it's done right, we necessarily are going to prevent it in the long term. What we have, even with the best cement, is a well that provides a pathway to groundwater, and we know that cement degrades over time.

We also know that the fluids can migrate over time. So we may not be seeing groundwater contamination immediately or in the next decade or even in the next several decades, but nobody has actually studied it for the period of time necessary to know whether by leaving literally what will be billions of gallons of contaminated fluid underground for decades to come, what, whether and how much of that will eventually surface into groundwater supplies and, and pollute drinking water.

I do agree completely about the concern about climate change and, and greenhouse gases. Again, there may be ways to extract this gas releasing fewer greenhouse gases than it currently does. But I think that we're on a path to catastrophic climate change if we

come anywhere close to the length of time that the industry is talking about and continuing to burn fossil fuels.

So I would hope that if the industry improves its meth, its methane leakage rates and can actually demonstrate, even in the short term, that gas is producing less climate change than coal, that we nevertheless would move within the next couple of decades to something that is very close to no burning of fossil fuels for energy.

Michael Gerrard: So I'm now going to invite Tom Merrill to come up for some closing remarks, and while he comes up here I want to thank Deborah and Mark and Michael for terrific presentations.

Tom Merrill: Thank you, Michael. I'll be very brief in adjuring us today. I want to thank the Richmond Center for supporting this conference. It wouldn't have been possible without their support. I particularly want to single out Kathleen Rithisorn and her staff for their excellent work in organizing this, putting it all together.

I want to thank all the panelists that appeared today for their excellent presentations and their thoughtful perspectives on hydrofracking.

I want to particularly thank the audience for its patient attention and for its excellent questions, which I think added a great deal to our proceedings.

Our purpose today was to have an exchange of information and ideas about a phenomenon that has literally burst on the scenes in the last 10 years without much forewarning. Perhaps those in the industry had some inkling that this would happen, but I can certainly say that those of us in the Academy were caught completely by surprise by this development.

What we've tried to do today is to foster an exchange of information and understanding about this phenomenon in the hopes of identifying possible common ground among participants in industry, the environmental community, and the academic world. I hope we've succeeded in some small part in trying to accomplish those goals. Thank you very much. Stay in touch.

**[End of audio]**

**Duration: 64 minutes**