Testimony of Richard Revesz
Lawrence King Professor of Law and Dean Emeritus
New York University School of Law
Before the Subcommittee on Environment and the Economy
House Committee on Energy and Commerce
July 11, 2014

Introduction

Good morning and thank you for inviting me to testify before this subcommittee. I am Richard Revesz, the Lawrence King Professor of Law and Dean Emeritus at New York University School of Law School. At NYU Law School, I also serve as the Director of the Institute for Policy Integrity, a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. In addition, I am the Director of the American Law Institute, the leading independent organization in the United States producing scholarly work to clarify, modernize, and otherwise improve the law. The views I will express today are my own and do not represent the views, if any, of New York University or the American Law Institute.

I have written extensively in the area of federalism and environmental regulation. The bulk of my work on this topic is contained in three articles and then summarized in a number of book chapters and symposium pieces. The first of these articles, "Rehabilitating Interstate Competition: Rethinking the 'Race to the Bottom' Rationale for Federal Environmental Regulation," published in the *NYU Law Review*, received the award for the best article or book on administrative law and regulatory

practice that appeared in 1993, given by the American Bar Association's Section on Administrative Law and Regulatory Practice. The second article, "Federalism and Interstate Environmental Externalities," published in the *University of Pennsylvania Law Review*, was cited prominently this past April in the first paragraph of Justice Ginsburg's majority opinion in *Environmental Protection Agency v. E.M.E. Homer City Generation*, where the Court upheld, in a 6-2 decision, the U.S. Environmental Protection Agency's approach to allocating between upwind and downwind states the pollution control burden necessary to meet federal standards for ambient air quality. The third article, "Federalism and Environmental Regulation: A Public Choice Analysis," was published in the *Harvard Law Review*. Each of these three articles was recognized by the *Land Use & Environment Law Review* as one of the best articles in environmental law published in its respective year. Copies of the articles are attached.

My academic work, as well as my testimony before this subcommittee, focuses on one of the issues on the agenda for today's hearing: as a matter of policy, when is federal intervention desirable? Neither my academic work nor my testimony focuses on the constitutional limits on federal power. As you will hear from others on this panel, the constitutionally permissible scope of federal regulatory power is very broad. As a result, the most important questions concern when and how that power should be exercised.

Summary

My testimony today focuses on three aspects of the policy question concerning when federal intervention is desirable. First, I argue that the presence of interstate externalities, which occur when pollution from one state has negative environmental consequences on other states or on the Nation as a whole, provides

the most compelling argument for federal environmental regulation. Unfortunately, actual federal regulation is often not well targeted to properly control the existing interstate externality. In this context, I will briefly discuss the federal government's experience regulating interstate air pollution under the Clean Air Act.

Second, I examine a current environmental controversy through the lens of interstate externalities: whether and how hydraulic fracturing, generally referred to as fracking, should be regulated. This debate would benefit from a clear distinction between environmental consequences that are local and ones that have interstate consequences. Fugitive methane emissions that escape into the atmosphere as a consequence of the extraction process are a paradigmatic example of an environmental problem requiring federal regulation.

Third, I discuss when it is appropriate for the federal government to preempt state standards that are more stringent than the corresponding federal standards. I show that federal preemption is desirable in the case of standards for products that exhibit strong economies of scale in production, but not for standards for other products, or for process standards, which determine how products can be produced.

Interstate Externalities and the Clean Air Act

As I already indicated, the presence of interstate externalities provides the most compelling argument for federal regulation. A state that sends pollution to another state obtains the labor and fiscal benefits of the economic activity that generates the pollution, but does not suffer the full costs of the activity because the adverse health and other environmental consequences are suffered by other states. Thus, a suboptimally large amount of pollution will cross state lines.

But the fact that some form of federal regulation is necessary to properly

control interstate externalities does not mean that *any* type of federal regulation is well suited to the task. The Clean Air Act provides a compelling example of this problem. Even though it has been in effect since 1970, we still have not succeeded a properly controlling interstate pollution. Let me give you two bookends. The first significant litigated case in this area, *Air Pollution Control District of Jefferson County, Kentucky v. Environmental Protection Agency*, was decided by the U.S. Court of Appeals for the Sixth Circuit in 1984. At the time, Mitch McConnell, the current Senate minority leader, was the Judge-Executive for Jefferson County, Kentucky. Kentucky had chosen to impose strict limits on its pollution in order to protect the health of its citizens. The local power plant had spent $138 million in pollution control—more than $300 million in today's dollars. But Jefferson County was not able to obtain the full benefits of this regulation because prevailing winds from Indiana deposited in Jefferson County pollution from an Indiana power plant that was essentially uncontrolled. The Indiana plant emitted 6 pounds of sulfur dioxide per million BTU of heat input—5 times as much as the Kentucky plant.

Jefferson County sought to compel the U.S. Environmental Protection Agency to limit the emissions of the Indiana power plant. Unfortunately, the county lost the case and it took almost thirty more years, until this past April, for the law to be finally clarified and made more rational. As I already indicated, in *Environmental Protection Agency v. E.M.E. Homer City Generation*, the Supreme Court recently held that under the "good neighbor" provision of the Clean Air Act, the pollution control burden between upwind and downwind states could be allocated in a way that minimized the overall cost of meeting federal ambient standards. If this legal rule had been in effect in 1984, then Judge-Executive Mitch McConnell's citizens would have gotten the federal redress they sought.

Hydraulic Fracturing and the Regulation of Fugitive Methane

The issue of interstate externalities is now being raised by a more recent environmental problem arising from fracking techniques used to extract oil and natural gas from shale. Many of the resulting environmental ills, such as increased seismic activity and groundwater contamination, are localized. But at least one significant consequence of fracking, the emission of "fugitive" methane, can wreak harm far from the wellhead. Fugitive methane's interstate—and, indeed, international—impacts make it particularly well suited to federal regulation.

Methane is a potent greenhouse gas, with an estimated global warming potential value 21 to 25 times greater than that of carbon dioxide. Natural gas itself is composed of more than 80% methane, and during the production and distribution processes some portion of that methane leaks (or is vented) into the atmosphere. While fugitive emissions can result from all drilling techniques, some studies suggest that fracking is associated with significantly higher leakage rates.

Like carbon dioxide, methane emissions become "well mixed" in the upper atmosphere, making their harmful effects global rather than local. In other words, a ton of methane emitted in California has the same marginal impact on global climate change as a ton emitted in North Dakota. Because an individual state will suffer only a small fraction of the harm associated with its methane emissions, the state has a significant incentive to under-regulate methane-producing activities like fracking.

The U.S. Environmental Protection Agency (EPA) recently began the process of regulating greenhouse gas emissions associated with the ultimate *combustion* of natural gas by proposing performance standards for new and existing power plants. Those standards will do nothing, however, to reduce pollution emitted at earlier stages in the gas's "life cycle," including extraction, processing, storage, and delivery. And such "upstream" emissions can be quite significant, accounting for an estimated

20 to 30 percent of total natural gas life-cycle emissions. Accordingly, there should be additional performance standards to constrain greenhouse gas emissions from upstream sources like natural gas wells, pipelines, and storage tanks.

Upstream gas infrastructure is already subject to performance standards for the emission of volatile organic compounds and hazardous air pollutants. While those standards have the co-benefit of reducing methane emissions, directly regulating methane would generate significant additional reductions.

As for the appropriate stringency of upstream methane standards, EPA should regulate to the point where the marginal cost of abatement is equal to the social cost of methane—in other words, the point where the cost of preventing an additional unit of methane emission is equivalent to the cost that unit of emission imposes on society. At that stringency, energy companies will be incentivized to perform all abatement that is cost-benefit justified. In the short term, the agency can calculate the social cost of a unit of methane by converting it into units of carbon dioxide equivalent and applying the Interagency Working Group's estimate of the Social Cost of Carbon. In the longer term, however, the federal government should heed the advice of leading economists and separately model the full social cost of methane, which would more accurately account for the gas's shorter atmospheric life span, among other differences.

Preemption of More Stringent State Standards

I now turn to a related question: when, if ever, should the federal government preempt more stringent state standards. In general, the federal government should act when a pathology, such as the presence of interstate externalities, would lead some states to set suboptimally lax standards if left to their

own devices. But those standards should be viewed as minimum standards, allowing states to set more stringent limits if they wish to do so. The reason is that federal standards have a limited purpose: to constrain the undesirable under-regulation that might result from a particular pathology, such as the presence of interstate externalities. Significantly, the purpose of federal intervention in such cases is not to displace state autonomy altogether. A typical example is section 116 of the Clean Air Act, which explicitly preempts state standards that are less stringent than the federal standards, but generally leaves in place any more stringent state standards. Such an approach is generally appropriate because some states might have higher preferences for environmental protection, lower costs of regulation, or the presence of more abundant substitutes for the regulated product.

The federal environmental laws contain one very significant, appropriate exception to this model of federal standards that are floors but not ceilings. Emission standards for automobiles are nationally uniform, with the federal standard acting as both a floor and a ceiling. Actually, to be accurate, the federal regime allows California to set more stringent standards and allows other states to choose between the California standard and the federal standard. But states cannot choose any other standards, regardless of whether they are more or less stringent than the federal standards. A similar requirement for uniformity applies to the regulation of pesticides. What is special about cars and pesticides that makes these distinctions appropriate, as I believe they are? Both are goods exhibiting significant economies of scale in production. In such cases, disparate state regulation would break up the national market for the product and be costly in terms of foregone economies of scale.

But the benefits of uniformity on this account can easily be overstated. Most products do not have similarly strong economies of scale in production. In those

cases, there is no compelling federal justification for preempting state standards that reflect state preferences for safety that are higher than the aggregated national preferences reflected in the federal regime.

Moreover, the argument for federal preemption of more stringent state standards is particularly weak in the case of process standards. Process standards, such as emission standards for power plants, govern the environmental consequences of the manner in which goods are produced rather than the consequences of the products themselves. Indeed, unlike the case of dissimilar product standards, there can be a well-functioning national market for products regardless of the stringency of the process standards governing their manufacture. If states want to impose higher costs on their manufacturers in order to reap the resulting health and environmental benefits, there is no reason for the federal government to interfere with their autonomy.

Conclusion

I am very grateful to have been invited to testify today and will be delighted to answer any questions you might have.