Written Testimony prepared for the House Committee on Energy and Commerce
February 26, 2019

Jay P. Shimshack*
Associate Professor of Public Policy and Economics, University of Virginia

Chairperson DeGette, ranking member Guthrie, distinguished members of the Committee, thank you for the opportunity to testify. My name is Jay Shimshack, and I am an Associate Professor of Public Policy and Economics at the University of Virginia's Frank Batten School of Leadership and Public Policy. I have been conducting research on environmental enforcement and compliance for 20 years. Recently, I have devoted considerable effort to synthesizing the relevant state of knowledge.

Environmental enforcement and compliance require significant resources, both public and private, but the benefits at stake are large. Pollution reductions spurred by enforceable regulations provide benefits for human health, property values, recreation, and other endpoints. Monetized estimates of the total benefits from the major rules overseen by the U.S. Environmental Protection Agency total hundreds of billions of dollars per year [1].

My testimony emphasizes two themes. First, the evidence indicates that traditional environmental monitoring and enforcement actions get results. Second, the evidence indicates that further devolution of environmental enforcement oversight from federal to state or local agencies may have important consequences for human health and the natural environment.

Before proceeding, it's worth noting what I mean by "the evidence." A large and growing multidisciplinary literature assesses environmental compliance by rigorously analyzing data. The methods are diverse. Many studies use quantitative deterrence and compliance measurement, where analysts apply regression techniques or modern quasi-experimental methods to large administrative datasets. Other approaches include qualitative methods like surveys, interviews, and case studies; laboratory evidence on environmental decision-making; and randomized controlled trials in the field. The evidence spans air, water, waste, oil, and other pollution. One stipulation is that the literature disproportionately addresses larger polluting facilities.

The effectiveness of monitoring and enforcement actions

My work, and that of many others, shows that environmental inspections and fines enhance compliance and reduce pollution [2].

- Inspections and fines reduce immediate environmental harm, as inspections and requirements of compliance orders or judicial resolutions generate direct pollution reductions.

- Inspections and fines generate specific deterrence effects, meaning that interventions improve future environmental performance at the evaluated or sanctioned facility.

* Jay P. Shimshack, Frank Batten School of Leadership and Public Policy, University of Virginia, 235 McCormick Road, PO Box 400893, Charlottesville, VA 22903-4893, jay.shimshack@virginia.edu .

- Inspections and fines generate general deterrence effects, meaning that interventions spillover to improve future environmental performance at other facilities in the same jurisdiction.

- Inspections and fines can generate beyond compliance effects, meaning that interventions induce facilities to reduce pollution below levels strictly necessary for compliance.

The literature on the effectiveness of alternative approaches to ensuring compliance – like voluntary programs, cooperative arrangements, information disclosure, and compliance assistance – is much smaller and the results are more mixed. My read of this literature is that compliance tools beyond inspections and enforcement can be effective when used as complements to traditional regulatory approaches, but not when used as substitutes to traditional approaches.

The devolution of enforcement responsibility

The majority of environmental permitting, inspection, and sanction activities are delegated to state and local authorities. Scholars have long noted advantages and disadvantages of this system [3]. One advantage of largely devolved oversight is that state and local agencies may have better information on local conditions and preferences, so monitoring and enforcement activities can be more carefully tailored to local circumstances. On the other hand, the literature shows that decentralized oversight also has disadvantages. Devolved oversight can spur a "race to the bottom," where states or localities perceive a need to compete to attract new businesses with lax environmental oversight. Decentralized enforcement can fail to adequately address pollution impacts crossing state borders or attributable to large firms operating in many states at once. Decentralization can heighten incentives for "regulatory capture," where local regulators may pursue the interests of the regulated community rather than the general public.

My own recent work, with Mary Evans and Scott Gilpatric, illustrates another peril of devolution [4]. We show that environmental enforcement in a decentralized system can lead to negative enforcement spillovers, which we deem "enforcement leakage." Increases in enforcement pressure in one state provide incentives for competitors in other states to increase production and pollution. We show that this happens under the Clean Water Act. The idea is akin to squeezing a balloon – some of the pollution reductions achieved by more enforcement pressure in one place are offset by increased pollution by competitors in other places. Results suggest that enforcement oversight may require more rigorous regional or national coordination.

Implications

The empirical evidence indicates that environmental inspections and fines get results. All else equal, reductions in EPA monitoring and enforcement will sacrifice benefits for environmental quality, human health, and property values.

In principle, reductions in EPA monitoring and enforcement could be offset by countervailing increases in state and local environmental monitoring and enforcement activity. In practice, further devolution of oversight comes with significant risks for environmental quality, human health, and property values.

Moreover, without substantial additional resources, it is not clear that state authorities have the capacity for greater oversight [5]. Variation in monitoring and enforcement intensity across states is currently pronounced. Federal EPA actions are often different from state actions; federal enforcement cases often emphasize complex issues like transboundary pollution, large multi-state firms, entities operating outside of the regulatory system, deliberate intent, or egregious environmental damage. Centralized oversight offers economies of scale for gathering compliance information. Finally, for decades, states and local agencies have been asked to do more with less, as resources have not kept up with the growing size and complexity of the regulated universe.

Chairperson DeGette, distinguished members of the Committee, this concludes my prepared remarks. I hope these comments provide a perspective from academic research on the important matters at hand. Thank you again for the opportunity to testify.

###

[1] See, e.g., Office of Information and Regulatory Affairs, Office of Management and Budget, "2017 Draft Report to Congress on the Benefits and Costs of Federal Regulations and Agency Compliance with the Unfunded Mandates Reform Act," 2017.

[2] For reviews of the literature, see, e.g., Shimshack, J. P. (2014). The economics of environmental monitoring and enforcement. *Annu. Rev. Resour. Econ.*, *6*(1), 339-360; Gray, W. B., & Shimshack, J. P. (2011). The effectiveness of environmental monitoring and enforcement: A review of the empirical evidence. *Review of Environmental Econ & Policy*, 5(1), 3-24. Alm, J., & Shimshack, J. (2014). Environmental enforcement and compliance: Lessons from pollution, safety, and tax settings. *Foundations and Trends® in Microeconomics*, *10*(4), 209-274.

[3] See, e.g., Oates, W. E. (2002). A Reconsideration of Environmental Federalism. In *Recent Advances in Environmental Economics;* and Konisky, D. M. (2007). Regulatory competition and environmental enforcement: Is there a race to the bottom? *Amer. J Political Science*, 51(4), 853-872. More generally, see Stigler GJ. 1971. The theory of economic regulation. *Bell J. Econ.* 2:3–21; Peltzman S. 1976. Toward a more general theory of regulation. J. *Law Econ* 19:211–24; Fredriksson, P. G., & Millimet, D. L. (2002). Strategic interaction and the determination of environmental policy across US states. *J Urban Economics*, 51(1), 101-122; and Levinson, A. (2003). Environmental regulatory competition: A status report and some new evidence. *National Tax Journal*, 91-106.

[4] Evans, M. F., Gilpatric, S. M., & Shimshack, J. (2019). Enforcement spillovers: Lessons from strategic interactions in regulation and product markets. *Journal of Law and Economics*, forthcoming. Also available at SSRN: https://ssrn.com/abstract=2664765 .

[5] For institutional discussions of environmental enforcement, see Mintz, J. A.(2012). *Enforcement at the EPA: High stakes and hard choices*. University of Texas Press; and Shimshack, J. P. (2014). The economics of environmental monitoring and enforcement. *Annu. Rev. Resour. Econ.*, *6*(1), 339-360.