

ENERGY LAW — STATE–LOCAL PREEMPTION — TEXAS ASSERTS EXCLUSIVE STATE-LEVEL JURISDICTION TO REGULATE OIL AND GAS OPERATIONS. — H.B. 40, 84th Leg., Reg. Sess. (Tex. 2015).

Hydraulic fracturing has enabled energy producers to access vast quantities of previously inaccessible oil and natural gas within tight shale formations, transforming the North American energy industry. Citing environmental and quality-of-life concerns, however, numerous municipalities have moved to ban the practice, provoking legal battles nationwide.¹ Denton became the first Texas municipality to do so by passing a ballot initiative on November 4, 2014, banning hydraulic fracturing.² In response, on May 4, 2015, the Texas Legislature passed House Bill 40³ (H.B. 40), which “expressly preempt[s] the regulation of oil and gas operations by municipalities and other political subdivisions.”⁴ Since it seems doubtful that a legal challenge to H.B. 40 would succeed under the Texas Constitution, regulation will likely occur at the state, rather than municipal, level in Texas for the foreseeable future. A closer examination of the Texan experience with hydraulic fracturing demonstrates that state governments may in fact be the most suitable arbiters from a policy perspective, due to the scope of the relevant environmental and economic impacts and the scale and expertise required to facilitate a meaningful debate on the issue.

The rise of unconventional oil and gas extraction techniques has been particularly impactful in Texas. While hydraulic fracturing itself is a decades-old practice,⁵ what is popularly and often pejoratively called “fracking” actually consists of a synthesis of multiple newer technologies: horizontal drilling, fluid technology, and multi-stage hydraulic fracturing.⁶ By opening vast shale reserves to production, the combination of these techniques has more than doubled Texas’s oil

¹ See David B. Spence, *The Political Economy of Local Vetoes*, 93 TEX. L. REV. 351, 357 (2014) (“[M]ore than 400 local anti-fracking ordinances [are] in place . . . and the anti-fracking bandwagon seems to be gathering even more steam.”).

² See Jim Malewitz, *Denton Group Seeking Fracking Ban Cites Gains*, TEX. TRIB. (Mar. 14, 2014), <http://www.texastribune.org/2014/03/14/denton-group-seeks-local-fracking-ban> [<http://perma.cc/GFK8-YCRY>]; *2014 November General Election: Proposition Regarding the Prohibition of Hydraulic Fracturing*, CITY OF DENTON, <http://www.cityofdenton.com/departments-services/general-election> [<http://perma.cc/2FJZ-6W8H>].

³ H.B. 40, 84th Leg., Reg. Sess. (Tex. 2015).

⁴ *Id.* § 1.

⁵ See RUSSELL GOLD, *THE BOOM* 8 (2014).

⁶ See GREGORY ZUCKERMAN, *THE FRACKERS* 252–53 (2013). The process involves injecting high-pressure fluids and proppant through a horizontal wellbore deep underground to shatter impermeable rock layers, allowing oil and gas to flow into the well. See *id.* For more background on recent technological innovation in the energy industry and the resulting political controversy, see generally GOLD, *supra* note 5; DANIEL YERGIN, *THE QUEST: ENERGY, SECURITY, AND THE REMAKING OF THE MODERN WORLD* 227–325 (2011).

production and gas reserves since 2005.⁷ This energy transformation has also stimulated the state's economy, driving remarkable increases in employment⁸ and providing a bonanza of tax revenues.⁹

But despite these economic merits, the practice has sparked controversy. Opposition has mounted, driven primarily by a combination of environmental concerns, including contamination of groundwater, low-intensity earthquakes, and air pollution.¹⁰ Further, local residents have often resented short-term quality-of-life disruptions, such as noise pollution and truck traffic.¹¹

Motivated by these concerns, residents of Denton, Texas — a city on the outskirts of the Dallas–Fort Worth metroplex with a population of approximately 125,000¹² — formed the Denton Drilling Awareness Group in 2014 and collected the 571 signatures needed to place a proposed ban on hydraulic fracturing before the City Council.¹³ The Council commissioned a number of studies, and on May 6, 2014, adopted a gas-well moratorium in order to “preserve the status quo while a review and update to the Gas Well Ordinance could be developed and implemented.”¹⁴ Two months later, in “one of the largest public hearings the city ha[d] ever seen,” the City Council ultimately declined to ban hydraulic fracturing.¹⁵ Instead, it developed a set of regulations that would permit the practice but “mitigate [its] impacts upon neighborhoods.”¹⁶ Incensed, the citizens overrode their city council later that year, passing a ban by referendum on November 4.¹⁷

⁷ See Letter from Barry T. Smitherman, Chairman, R.R. Comm'n of Tex., to Chris Watts, Mayor, City of Denton, and Members of the City Council, City of Denton (July 10, 2014), <http://www.rrc.state.tx.us/media/21731/denton-ltr-7-10-14.pdf> [<http://perma.cc/3585-8DTL>].

⁸ Data from the Texas Workforce Commission indicate that during the shale revolution from 2007 to 2014, over 1.4 million new jobs emerged in Texas. Mark J. Perry, *Texas, the “Great American Job Machine,” Is Largely Responsible for the +1.2M Net US Job Increase Since 2007*, AM. ENTER. INST. (Jan. 23, 2015, 6:30 PM), <http://www.aei.org/publication/texas-great-american-job-machine-solely-responsible-1m-net-us-job-increase-since-2007> [<http://perma.cc/FN3M-4Q5P>].

⁹ Texan tax revenues on crude oil and natural gas were \$3.8 billion and \$1.9 billion, respectively, in 2014, representing increases of 30% and 27% over 2012. Nicholas Sakelaris, *Voters Pass Prop 1, Securing Billions in Funding for Texas Roads*, DALL. BUS. J. (Nov. 4, 2014, 10:10 PM), <http://www.bizjournals.com/dallas/news/2014/11/04/voters-pass-prop-1-securing-billions-in-funding.html> [<http://perma.cc/JHB9-JXYA>].

¹⁰ See Spence, *supra* note 1, at 358–67.

¹¹ See *id.* at 367–68.

¹² Adam Gawarecki, *Data*, DENTON ECON. DEV. PARTNERSHIP, <http://dentonedp.com/printpdf/21> [<http://perma.cc/4YQ2-53AW>] (citing U.S. Census Bureau data).

¹³ Malewitz, *supra* note 2.

¹⁴ Denton, Tex., Ordinance 2015-233 (Aug. 4, 2015).

¹⁵ Peggy Heinkel-Wolfe, *Denton City Council Rejects Proposal to Ban Fracking in 5-2 Vote*, DALL. MORNING NEWS (July 16, 2014, 9:16 AM), <http://www.dallasnews.com/news/metro/20140715-denton-city-council-fracking-meeting-goes-late.ece> [<http://perma.cc/47K6-KRSM>].

¹⁶ Denton, Tex., Ordinance 2015-233.

¹⁷ *Id.*

Texas responded by passing H.B. 40, joining the ranks of states that have seized the prerogative to make this regulatory decision,¹⁸ and asserting that “[a]n oil and gas operation is subject to the exclusive jurisdiction of this state” and that “a municipality . . . may not enact or enforce an ordinance . . . that bans, limits, or otherwise regulates an oil and gas operation.”¹⁹ The bill does, however, carve out an exception for regulation of “aboveground activity,” so long as such regulation is “commercially reasonable” and does not “effectively prohibit” the work of a “reasonably prudent operator.”²⁰ In describing the background and purpose of the bill, the House Energy Resources Committee noted that H.B. 40 “seeks to ensure consistent statewide regulation” of an industry that “grow[s] jobs and anchor[s] the Texas economy.”²¹ Outraged by this measure, ban supporters in Denton responded by planning demonstrations and “kicking off civil disobedience training.”²²

When mediating such state–local regulatory conflicts, courts have split as to which jurisdiction should prevail; some courts have sided with the state government²³ and some with the locality.²⁴ But under the Texas Constitution, challenges to H.B. 40 seem unlikely to succeed. Denton cited strategic concerns in choosing not to challenge the constitutionality of H.B. 40 in court,²⁵ admitting on its website that “the City’s home rule authority and/or police powers” do not trump state law.²⁶ Instead, the city repealed its ban on June 16.²⁷ This seems prudent from a legal perspective. Unlike at least one state constitution, the Texas Constitution does not contain a provision granting special envi-

¹⁸ See, e.g., S.B. 809, 55th Leg., 1st Sess. (Okla. 2015) (prohibiting municipalities from banning hydraulic fracturing); Alexandra B. Klass, *Fracking and the Public Trust Doctrine: A Response to Spence*, 93 TEX. L. REV. SEE ALSO 47, 54 (2014) (noting Vermont’s ban on the practice).

¹⁹ H.B. 40 § 2(b).

²⁰ *Id.* § 2(c).

²¹ TEX. HOUSE ENERGY RES. COMM., BILL ANALYSIS, C.S.H.B. 40, at 1 (2015).

²² Leah McGrath Goodman, *To Quiet Calls for Fracking Curbs, Texas Bans Bans*, NEWSWEEK (June 4, 2015, 6:46 AM), <http://www.newsweek.com/2015/06/12/quiet-calls-fracking-curbs-texas-bans-bans-339164.html> [<http://perma.cc/C23X-UER9>].

²³ See, e.g., *Swepi, LP v. Mora County*, 81 F. Supp. 3d 1075, 1193 (D.N.M. 2015) (overturning a county’s hydraulic fracturing ban because of implied preemption by state law); *State ex rel. Morrison v. Beck Energy Corp.*, 37 N.E.3d 128, 133 (Ohio 2015) (overturning a city’s hydraulic fracturing ban that conflicted with the state’s general laws as a violation of municipalities’ authority under article eighteen, section three, of the Ohio Constitution).

²⁴ See, e.g., *Robinson Township v. Commonwealth*, 83 A.3d 901, 974–82 (Pa. 2013).

²⁵ CITY OF DENTON, CURRENT LITIGATION 1, <http://www.cityofdenton.com/home/showdocument?id=23542> [<http://perma.cc/QGS4-3ZVT>].

²⁶ *Id.* at 3. Home rule charter authority, which permits some decentralized lawmaking, is derived from the Texas Constitution. *Id.* at 2.

²⁷ Denton, Tex., Ordinance 2015-233 (Aug. 4, 2015).

ronmental rights, which may have supported a challenge to H.B. 40.²⁸ Nor does any constitutional language or common law precedent exist in Texas to support a “public trust doctrine” attack on H.B. 40.²⁹ The Texas Constitution does, however, contain language implying its plenary power to preempt local ordinances.³⁰

State-level regulation of hydraulic fracturing is therefore the status quo in Texas. Close examination of the state’s economy, environment, and regulatory institutions illustrates two strong scholarly arguments for this approach: the matching principle and economies of scale. First, because both the economic benefits and environmental costs of energy production accrue on a predominantly statewide basis, the state’s legislature and regulatory institutions are better positioned to comprehensively weigh the full benefits of the activity against its full costs.³¹ Second, meaningful debate on both the economic and the environmental impacts requires treatment by a body of sufficient scale and expertise to collect, appreciate, and evaluate highly complex evidence.³² Texas’s experience on both fronts lends support to the proposition that hydraulic fracturing is best regulated at the state level.

Under the principle of “matching” or “subsidiarity,” “regulatory jurisdiction[s] generally should correspond to the geographic scope of the externality.”³³ The job-creation and economic-development effects of production in municipalities like Denton have reverberated statewide, but localities may fail to fully consider these benefits. “Midstream” and “downstream” activity, such as transport infrastructure, refining, and petrochemical production, have thrived in recent years; one study predicted the pipeline industry alone would sustain 171,000 jobs annu-

²⁸ Cf. *Robinson Township*, 83 A.3d at 974 (holding that Pennsylvania’s “Environmental Rights Amendment . . . devolv[es] duties upon various actors within the political system” and that the case was “not about municipal power” but “instead about compliance with constitutional duties”).

²⁹ A number of states have common law or state constitutional public trust doctrine precedents that place a duty on public officials to protect natural resources. For exposition of this legal theory, see Klass, *supra* note 18, at 53–55, who notes that these precedents could be used to “prevent[] . . . an override of local authority,” *id.* at 55. The City of Denton has indicated on its own website that “Pennsylvania’s ‘public trust doctrine’ is not applicable in Texas. . . . Texas has not amended its constitution [to match Pennsylvania’s], nor has the Texas Legislature enacted any statute providing for the ‘public trust doctrine.’” CITY OF DENTON, *supra* note 25, at 1.

³⁰ Compare TEX. CONST. art. XI, § 5 (“The adoption or amendment of [municipal] charters is subject to such limitations as may be prescribed by the Legislature, and no charter or any ordinance passed under said charter shall contain any provision inconsistent with . . . the general laws enacted by the Legislature of this State.”), with OHIO CONST. art. XVIII, § 3 (“Municipalities shall have authority to exercise all powers of local self-government and to adopt and enforce within their limits such . . . regulations, as are not in conflict with general laws.”).

³¹ See Thomas W. Merrill & David M. Schizer, *The Shale Oil and Gas Revolution, Hydraulic Fracturing, and Water Contamination: A Regulatory Strategy*, 98 MINN. L. REV. 145, 254 (2013).

³² See *id.* at 255–56.

³³ *Id.* at 254.

ally in Texas from 2014 to 2024.³⁴ Tax revenues have skyrocketed, providing billions of dollars annually for infrastructure development.³⁵ Furthermore, royalties from production contributed over \$700 million during fiscal year 2014 alone to the endowment of the University of Texas System.³⁶ Moreover, localities fail to internalize the benefits of *uniformity* of regulation — the avoidance of a patchwork of regulatory regimes for businesses that hope to operate statewide or across several local jurisdictions.³⁷ And since these statewide implications, public and private, are usually not internalized in local decisionmaking,³⁸ their existence can distort the regulatory outcome.

But while the benefits accrue mostly to the state, some have argued that the environmental costs are disproportionately borne by municipalities, thereby justifying local regulation.³⁹ In Texas’s case, however, this argument fails to account for the many salient environmental issues whose impacts also better “match” at the state level. Many of Texas’s aquifers, which provide the majority of the state’s fresh water, serve multiple counties.⁴⁰ Drinking-water contamination is therefore

³⁴ Bradley T. Ewing et al., *Current and Future Economic Impacts of the Texas Oil and Gas Pipeline Industry*, TEX. TECH U. (July 2014), <http://www.texaspipelines.com/wp-content/uploads/2014/07/FINAL-The-Economic-Impact-of-Texas-Oil-and-Gas-Pipeline-7-2014.pdf> [<http://perma.cc/MQ9B-LP72>]; see also Perry, *supra* note 8 (describing ripple effects throughout the Texan economy).

³⁵ See S.J. Res. 1, 83rd Leg., Reg. Sess. (Tex. 2014) (amending article three, section forty-nine of the Texas Constitution to allocate half of the oil and gas tax revenues above a base level to fund road construction); Sakelaris, *supra* note 9 (estimating this allocation at approximately \$1.7 billion annually). Notably, some of these benefits can reverse during periods of declining energy prices. Yet the potential for disruption resulting from these fluctuations emphasizes the importance of energy to Texas, and thus the need to fully account for its benefits and costs.

³⁶ Timothy W. Martin, *Texas Beats Out Yale for No. 2 in Endowment Rankings*, WALL ST. J.: MONEYBEAT (Jan. 29, 2015, 6:06 PM), <http://blogs.wsj.com/moneybeat/2015/01/29/texas-beats-out-yale-for-no-2-in-endowment-rankings> [<http://perma.cc/7JBB-97RN>]. Boosted by production royalties from publicly owned lands, the University of Texas System endowment recently passed Yale University to become the second largest in the nation; Texas A&M University, which also receives production royalties, has risen to seventh. *Id.*

³⁷ See Jim Malewitz, *Denton Fracking Ban Could Spur Wider Legal Clash*, TEX. TRIB. (July 25, 2014), <http://www.texastribune.org/2014/07/25/denton-fracking-ban-could-spur-wider-legal-clash> [<http://perma.cc/R442-HSC6>] (quoting Texas Land Commissioner George P. Bush’s argument against “a patchwork approach to drilling regulations across the state”).

³⁸ See Jim Malewitz, *Letter from Denton: The Texas Energy Revolt*, POLITICO MAG. (Dec. 15, 2014), <http://www.politico.com/magazine/story/2014/12/texas-fracking-ban-113575#.VI-KaWTF9X> [<http://perma.cc/L5WZ-RWM2>] (“[T]he election’s outcome didn’t surprise [a local] one bit. . . . Few Denton residents own the mineral wealth beneath their property. That happens frequently in Texas, where mineral interests are ‘severed’ from surface property.”).

³⁹ See, e.g., Spence, *supra* note 1, at 357–58 (“Local opposition stems mostly from concerns about the impacts of fracking — on water, seismicity, air quality, and local quality of life (e.g., noise, truck traffic . . .) — which are borne mostly (but not exclusively) by locals . . .”).

⁴⁰ See Keith Phillips, Edward Rodrigue & Mine Yücel, Fed. Res. Bank of Dall., *Water Scarcity a Potential Drain on the Texas Economy*, SW. ECON., Fourth Quarter, 2013, at 3, 4–5 (showing that a number of Texan aquifers span broad portions of the state).

not merely a local concern, but also in fact a regional concern.⁴¹ The same logic applies to water scarcity, an increasingly urgent challenge for Texas.⁴² Air quality, another cost usually cited as affecting localities through trucking and production emissions, can also receive more holistic consideration by factoring in regional impact: the pivot in Texas from coal to natural gas⁴³ made possible by abundant supply has reduced the air pollution from electric power production.⁴⁴ Further, increased seismicity, commonly believed to result from hydraulic fracturing, is actually driven largely by wastewater disposal — which does not necessarily occur on site, is necessary to dispose of water produced from both traditional and unconventional wells, and can cause seismic effects that extend beyond the local area.⁴⁵ Finally, climate impact, another concern of those seeking to restrict hydraulic fracturing, can hardly be considered a local concern.

The Texan experience, therefore, shows that the relevant environmental externalities are borne statewide and match better at the state level. Further, those effects that do not affect the broader region, including such concerns as truck traffic, noise pollution, and certain aspects of wastewater disposal, are left open to reasonable regulation by localities under H.B. 40⁴⁶ — thereby adhering to the matching princi-

⁴¹ See *id.* at 5 (“Because district borders follow county lines, several districts may overlay the same aquifer. . . . [A 2005 bill] recognized the ‘common pool resource’ problem associated with competing groundwater districts . . . [and] shifted decision-making toward larger entities that encompass entire aquifers . . . overseen by the Texas Commission on Environmental Quality.”).

⁴² See *id.* at 3. Indeed, a recent study found that, despite high water usage in hydraulic fracturing, Texas’s increased use of natural gas to replace coal would reduce freshwater consumption by an estimated fifty-three billion gallons per year. See Emily A. Grubert et al., *Can Switching Fuels Save Water? A Life Cycle Quantification of Freshwater Consumption for Texas Coal- and Natural Gas-Fired Electricity*, 7 ENVTL. RES. LETTERS, no. 4, at 1 (Oct. 8, 2012), <http://iopscience.iop.org/article/10.1088/1748-9326/7/4/045801/pdf> [<http://perma.cc/5KET-WBLJ>].

⁴³ See GOLD, *supra* note 5, at 244–45 (“Texas, by itself, generated more power from gas than thirty-eight other states combined.”); *id.* at 243–47 (noting that a Texas utility’s 2007 decision not to build eight new coal plants prevented over fifty million tons of annual carbon emissions).

⁴⁴ See WORLD BANK GROUP, POLLUTION PREVENTION AND ABATEMENT HANDBOOK 1998, at 258, 258–59 (1999) (concluding that “[n]atural gas is the preferred fuel in areas where it is readily available” due to its low sulfur content and “added advantage of emitting no particulate matter when burned”); *Clean Energy: Air Emissions*, U.S. EPA, <http://pbadupws.nrc.gov/docs/ML1006/ML100600773.pdf> [<http://perma.cc/6UR4-LMWJ>] (last updated Dec. 28, 2007) (noting that “[e]missions of sulfur dioxide and mercury compounds from burning natural gas are negligible,” but that burning coal releases harmful amounts of both).

⁴⁵ See Justin L. Rubinstein & Alireza Babaie Mahani, *Myths and Facts on Wastewater Injection, Hydraulic Fracturing, Enhanced Oil Recovery, and Induced Seismicity*, 86 SEISMOLOGICAL RES. LETTERS 1060, 1061 (2015) (noting that “[m]ost induced earthquakes in the United States are a result of the deep disposal of fluids,” correcting the “[m]isconception” that most “wastewater injected in disposal wells is spent hydraulic fracture fluid,” and stating that “[s]eismicity can be induced at distances of 10 km or more away from the injection point”).

⁴⁶ Indeed, the Act explicitly invites such regulation, amending the Texas Natural Resources Code to permit municipal regulation of “aboveground activity related to an oil and gas operation that occurs at or above the surface of the ground, including a regulation governing fire and emer-

ple in a targeted fashion, and ameliorating some of the concerns of advocates for local regulation.⁴⁷ This layered approach seems worthy of emulation by other states facing similar challenges.

Beyond indicating the importance of matching both economic and environmental impacts to the appropriate jurisdictions, scholars have advocated for considering each level of government's capacity to fully understand the costs and benefits in either sphere, noting that higher levels of government enjoy certain economies of scale.⁴⁸ A comparison of Denton's process with the regulatory procedures of the Texas Railroad Commission (TRC) and the Texas Commission on Environmental Quality (TCEQ)⁴⁹ demonstrates the marked advantages that scale can provide in terms of resources, expertise, and process. First, the city's best efforts to evaluate the detailed scientific and economic data involved an eight-hour public hearing and ongoing input from its panel of citizen experts.⁵⁰ Meaningful contrast exists between the capabilities Denton could muster and the rigorous standards of the TRC and TCEQ, which follow standardized rulemaking processes, solicit public comments, and rely on decades of accumulated technical expertise.⁵¹

agency response, traffic, lights, or noise, or imposing notice or reasonable setback requirements." H.B. 40 § 2(c); see also Denton, Tex., Ordinance 2015-233 exh. 2 (Aug. 4, 2015) (amending Subchapter 5 of the Denton Development Code to "regulate under [H.B. 40's] authority, in order to implement compatible local objectives that assure the health, safety, and general welfare of the City's residents and businesses").

⁴⁷ See Spence, *supra* note 1, at 358–68.

⁴⁸ See Merrill & Schizer, *supra* note 31, at 255.

⁴⁹ In 16 TEX. ADMIN. CODE § 3-30 (2012), Texas divides jurisdiction over oil and gas operations between the TRC, which controls permitting and other industry regulations, and the TCEQ, which regulates "hazardous waste disposal, stormwater, underground injection wells, and various other externalities of gas production." David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, 161 U. PA. L. REV. 431, 458 n.142, 475 n.215 (2013).

⁵⁰ See Heinkel-Wolfe, *supra* note 15. Denton's Gas Drilling Task Force, which assists the city in drafting the local gas drilling code, includes a water contamination specialist, an environmental planner, and an experienced petroleum engineer as citizen members, along with several industry experts. See *Gas Drilling Task Force*, CITY OF DENTON, <http://www.cityofdenton.com/departments-services/departments-g-p/gas-well-inspections/gas-drilling-task-force> [<http://perma.cc/QD74-WB2H>]; Lowell Brown, *Gas Code Task Force Makes Its Proposals*, DENTON REC.-CHRON. (Apr. 7, 2012, 10:48 PM), <http://www.dentonrc.com/local-news/local-news-headlines/20120407-gas-code-task-force-makes-its-proposals.ece> [<http://perma.cc/5PVF-G8ZZ>].

⁵¹ See *Hydraulic Fracturing*, R.R. COMM'N TEX., <http://www.rrc.state.tx.us/about-us/resource-center/faqs/oil-gas-faqs/faq-hydraulic-fracturing> [<http://perma.cc/E84L-RGET>] (explaining the state's requirements for, inter alia, disclosing chemical fluid ingredients, determining groundwater protection depths, layering steel casing, reporting of anomalies, and responding to water complaints); *Rules and Rulemaking*, TEX. COMM'N ON ENVTL. QUALITY (Dec. 17, 2014), https://www.tceq.texas.gov/rules/rules_rulemaking.html [<https://perma.cc/B83Q-KDQG>] (providing information about existing TCEQ rules and those in process). One scholar concludes that "though Pennsylvania's environmental rules are more specific than Texas's, it does not appear that Pennsylvania's regulation of natural gas production (and of fracking in particular) is generally more environmentally stringent than regulation is in Texas." Spence, *supra* note 49, at 458.

Second, supporters of the ban were able to take advantage of another aspect of small scale — the availability at the local level of direct referenda — to render such evidentiary considerations less relevant. Limited by a shoestring budget, supporters of the ban reached out directly to the public with a campaign of “knocking on doors, staging puppet shows and performing song-and-dance numbers.”⁵² These tactics may not have done much to further the public understanding of the relevant evidence, but they did persuade voters to override their City Council. However, Texas does not allow direct referenda at the state level, and amendments to its Constitution must first be proposed by the legislature,⁵³ thereby avoiding a regulation-by-referendum approach to this complex issue and ensuring an informed decision.

It is unclear whether, as the Denton group The Frackettes satirically sang in advocating for its town’s ballot initiative, “fracking is your town’s best friend.”⁵⁴ However, their warning that “[i]f you try to ban fracking, you’ll need a lawyer”⁵⁵ has proven prescient in light of the passage of H.B. 40 and Denton’s subsequent decision to replace its ban with surface activity regulations instead of mounting a legal challenge. An application of the regulatory principles of matching and economies of scale to the facts on the ground seems, at least in Texas, to illustrate that this outcome may lead to a regulatory response that best balances the interests at stake. Indeed, given the fact that the diversity of state-level outcomes spans from New York’s statewide hydraulic-fracturing ban to H.B. 40, it appears that what has been called “Brandeisian experimentalism”⁵⁶ is alive and well. This leaves space for alternative approaches to this controversial regulatory problem to flourish — and to do so at a scale that enables both holistic evaluation and technical appreciation of the costs and benefits of hydraulic fracturing.

⁵² Malewitz, *supra* note 38. The total amount raised by supporters of the ban to educate the public totaled approximately \$70,000. *Id.*; see also Startelegramvideo, *The Frackettes*, YOUTUBE (Oct. 9, 2014), <http://www.youtube.com/watch?v=MD5r8WGYAug> (showing a Denton musical trio satirizing energy producers in a homemade video of “Fracking Is Your Town’s Best Friend,” performed to the tune of “Diamonds Are a Girl’s Best Friend” with such lyrics as “we’ll drill on, though the neighborhood’s gone up in flames”).

⁵³ See *State-by-State List of Initiative and Referendum Provisions*, INITIATIVE & REFERENDUM INST., http://www.iandrinstitute.org/statewide_i&r.htm [<http://perma.cc/7RQE-PK7U>]. While a minority of U.S. states do permit regulation by direct referendum, see *id.*, increased scale will likely supply increased resources to support, at the least, a more robust public debate.

⁵⁴ Startelegramvideo, *supra* note 52.

⁵⁵ *Id.* at 1:29.

⁵⁶ See Merrill & Schizer, *supra* note 31, at 256 & n.454 (quoting Justice Brandeis’s statement that a “single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country,” *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting)).