The "Lone Grid" State: Texas as the Ideal Location for State-Level Climate Regulation

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INTRODUCTION

Given the current state of national politics, it is highly unlikely that the United States Congress will pass comprehensive climate legislation any time soon. In the meantime, that inaction has relegated American climate policy to the states by default.[1] Under the federal system, states serve as "laboratories of Democracy," not just because each state has the freedom to make its own choices, but also because each state is inherently different and therefore experiments with different solutions to the same challenges. As this Field Report explores, these differences between states can have surprising implications, especially for greenhouse gas (GHG) regulation.

Consider the question, "Which state is best suited to enact a strong climate policy?" Most people would likely answer, "California," in part because it is the only state that has enacted its own GHG cap-and-trade program to date.[2] Indeed, the Golden State is comparatively well situated to enact climate regulation for a number of reasons, including the state's eco-friendly political climate and its already low reliance upon carbon-rich coal.[3] However, despite its advantages, California still faces a structural hurdle to subnational climate regulation that is common to most—but not all—other states: the amalgamated design of the national power grid. Only

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1. Regional climate efforts are not considered independently here because binding regional programs require congressional approval per the Compact Clause, U.S. CONST. art. I, § 10, cl. 3, and current nonbinding regional greenhouse gas (GHG) regimes like the northeastern Regional Greenhouse Gas Initiative (RGGI) operate for these purposes as a collection of cooperative single state programs. *See* Kirsten H. Engel, *Mitigating Global Climate Change in the United States: A Regional Approach*, 14 N.Y.U. ENVTL. L.J. 54, 74 (2005) (citing Cuyler v. Adams, 449 U.S. 433, 440 (1981)). Thus the analysis that follows applies equally to those regional programs that are likely to exist without congressional input.

2. CAL. HEALTH & SAFETY CODE § 38500–38599 (West 2007).

3. Cal. Energy Comm'n, *California Electrical Energy Generation*, ENERGY ALMANAC, http://energyalmanac.ca.gov/electricity/electricity_generation.html (last updated July 1, 2013).

one contiguous state does not face this constraint: Texas.[4] This Field Report argues that this single difference could prove to be the most important factor in establishing a strong state-level climate regime. If it is, then Texas—not California—may be the state best able to enact strong GHG regulations.

Part I of this Field Report explains how the "leakage" of emissions facilitated by interstate electrical infrastructure can undermine state-level carbon regulations—unless states account for emissions from imported electricity. Part II describes how the dormant Commerce Clause impedes state-level regulation of interstate electric imports. Part III discusses the structure of Texas's unique, *intra*state power grid. Part IV argues that because the Texas grid is isolated, the state should be able to enact a strong climate program without requiring the anti-leakage import regulations that expose other state programs to dormant Commerce Clause litigation. As a result, this Field Report concludes that Texas is actually better situated than any other state to enact a strong, subnational climate program.

I. LEAKAGE FORCES STRONG CLIMATE REGULATIONS TO REGULATE IMPORTED ELECTRICITY

Electricity generation accounts for the single largest share of GHG emissions in the United States; it is responsible for a full third of national emissions.[5] As a result, a strong climate policy at any level of government must address emissions from the power sector. It is difficult for states to comprehensively regulate the power sector because although state authority ends at the border, electrons flow freely across the U.S. electrical grid: a sprawling, interconnected web of over 200,000 miles of high-voltage lines that traverse nearly every state border.[6] Most states import significant quantities of power, so if a state only regulates power produced within its borders, it ignores a potentially significant percentage of the GHG emissions attributable to instate power consumption. The risk here goes beyond a concern that some polluters might not pay for their

4. Admittedly, because Hawaii is a collection of islands thousands of miles from the mainland, its grid is also isolated from the national power grid. Therefore, the Aloha State should find itself in a similar situation to that described below for Texas. Yet exploring the ways in which an island is surrounded by water makes for a far less interesting analysis (and one that has now been completed in this footnote) than that expounded below, so this Essay confines itself to the contiguous United States.

5. U.S. Envtl. Prot. Agency, *Sources of Greenhouse Gas Emissions*, EPA.GOV, http://www.epa.gov/climatechange/ghgemissions/sources/electricity.html (last updated Sept. 9, 2013).

6. Alexandra B. Klass & Elizabeth J. Wilson, *Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch*, 65 VAND. L. REV. 1801, 1805 (2012).

emissions; ignoring imports could conceivably negate any and all production-based emissions reductions achieved within a regulating state.[7]

Consider the practical effect of state climate regulations: putting a price on carbon effectively raises the cost of instate carbon-intensive power production relative to the cost of clean energy. However, it also increases the instate cost relative to the cost of similarly carbon-intensive production in unregulated neighboring states. The grid's interstate connectivity allows power to be cheaply and easily transported across state lines, so if imports are not regulated, state climate programs create counterproductive incentives to import dirty power.

Imagine North Carolina implementing a climate program while neighboring South Carolina continued along with business as usual. If North Carolina did not regulate imports and the price of instate production rose because of those regulations, North Carolina utilities could save money by importing cheaper dirty power from unregulated South Carolina rather than producing that same power in North Carolina. In effect, dirty power generators would simply shift out of North Carolina, reestablish themselves across the border in South Carolina, and then export that same dirty power back into North Carolina without regulation and at lower cost.[8] In this scenario, if *production* moved out of North Carolina but instate *consumption* remained the same, the only effect of North Carolina's climate regulation would be to allow the emissions associated with instate power consumption to "leak" out of its jurisdiction. North Carolina's instate emissions might technically decrease on paper, but no significant net reductions would actually occur.[9] This problem has an obvious solution: regulating imported electricity to the same standards as instate generation would level the playing field and remove the financial disparity that drives leakage. But the dormant Commerce Clause complicates such measures.

7. For example, some models have placed leakage from the Kyoto Protocol at a modest level between 5 and 25 percent; however, others have calculated that leakage rates could actually fall in the range of 50 percent up to a shocking 130 percent—potentially causing even more emissions than would occur without the program. Mustafa H. Babiker, *Climate Change Policy, Market Structure, and Carbon Leakage*, 65 J. INT'L ECON. 421, 441 (2005).

8. Obviously, this is an oversimplification as power plants cannot pick up and move. However, over time one would expect to see shifts in investment. In the short term, multistate utilities with a variety of generating assets could attempt to achieve this result without any physical relocation by reallocating contracts from power plants in different states. *See* BOWMAN CUTTER, M. RHEAD ENION, ANN CARLSON & CARA HOROWITZ, RULES OF THE GAME: EXAMINING MARKET MANIPULATION, GAMING AND ENFORCEMENT IN CALIFORNIA'S CAP-AND-TRADE PROGRAM 46-48 (2011) (discussing this phenomenon, known as "resource shuffling," and measures to combat it in California).

9. Robert N. Stavins, *A Meaningful U.S. Cap-and-Trade System to Address Climate Change*, 32 HARV. ENVTL. L. REV. 293, 310 (2008); *see generally* Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PENN. L. REV. 1961, 1967–68 (2007).

II. THE DORMANT COMMERCE CLAUSE OBSTRUCTS STATE REGULATION OF IMPORTED ELECTRICITY

Leakage can severely undermine the success of carbon regulations, so a strong state climate program must account for emissions from imported electricity in some way.[10] Yet regulating imported power poses an especially tough challenge at the state level, and states that attempt to regulate imports almost inevitably expose themselves to Commerce Clause litigation. Authority over interstate commerce is unequivocally granted to Congress,[11] and the U.S. Supreme Court has noted that: "it is difficult to conceive of a more basic element of interstate commerce than electric energy. . ."[12] Thus state laws unquestionably give way to federal regulation of interstate electricity. One might assume that states are still free to legislate in this area because there is no federal interstate carbon regulation, but the Commerce Clause has a long reach.

Courts have interpreted the Commerce Clause broadly, and the dormant Commerce Clause is a judicially implied doctrinal expansion that reaches even farther.[13] Where Congress has not exercised its Commerce Clause power, courts will nonetheless observe implied federal control, proactively preserving that policy space from state incursions on behalf of future congressional actions—above, beyond, and indeed before the federal Supremacy Doctrine is needed. In practice, the dormant Commerce Clause invalidates instate regulations that could have a chilling effect on interstate commerce, especially if a state law "discriminates" against items in commerce on the basis of their out-of-state origins.[14] Note that "discrimination" in this context is supposed to mean *detrimental* treatment, rather than merely *differential* treatment.[15] However, courts have proven wary of any regulatory distinctions based on origin. As recent case law has demonstrated, even well-meaning attempts to regulate

10. A national climate regime would confront a challenge with leakage as well, but the nuances of international trade law are beyond the scope of this Field Report. *See generally* Ludivine Tamiotti, *The Legal Interface Between Carbon Border Measures and Trade Rules*, 11 CLIMATE POL'Y 1202 (2011).

11. U.S. CONST. art. I, § 8, cl. 3.

12. FERC v. Mississippi, 456 U.S. 742, 757 (1982).

13. *See, e.g.*, Dep't. of Revenue of Ky. v. Davis, 553 U.S. 328, 337-40 (2008).

14. *See generally* William Funk, *Constitutional Implications of Regional CO_2 Cap-and-Trade Programs: The Northeast Regional Greenhouse Gas Initiative as a Case in Point*, 27 UCLA J. ENVTL. L. & POL'Y 353 (2009).

15. Or. Waste Sys., Inc. v. Dep't of Envtl. Quality, 511 U.S. 93, 99 (1994) (describing the dormant Commerce Clause as prohibiting "differential treatment of instate and out-of-state economic interests *that benefits the former and burdens the latter*") (emphasis added).

imports fairly but differently can give the appearance of discrimination and render a climate program unconstitutional.[16]

This legal complication poses special problems for GHG regulation in the power sector, because the physical properties of electricity almost require a state to regulate instate and out-of-state production differently. The highest hurdle is the practical difficulty of obtaining accurate and equivalent emissions data from both instate and out-of-state generators using the same methodology. Electrons flowing through transmission lines cannot be tracked individually and are essentially fungible. Retroactively determining the source of electricity or the quantity of GHGs emitted in its production is impossible.[17] Practically speaking, then, there are only two ways to accurately assess electricity-related emissions: either measure the carbon content of fuel inputs going into power plants or measure the actual GHG outputs at smokestacks leaving power plants. States can compel instate entities to report their fuel inputs or emissions, but they lack this authority over out-of-state entities.[18] Thus, states can do no more than to simply estimate out-of-state emissions or to try to persuade out-of-state actors to voluntarily provide the desired information.[19] In short, the need to regulate instate and out-of-state electricity differently creates a tradeoff between accuracy and assured constitutionality.

16. *See, e.g.*, Rocky Mountain Farmers Union v. Goldstene, 843 F. Supp. 2d 1071 (E.D. Cal. 2011) (invalidating California's Low Carbon Fuel Standard because its analysis of "lifecycle" emissions appeared to inherently penalize certain types of fuels based on their origin). The Ninth Circuit recently overturned this opinion, *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070 (9th Cir. 2013), but the power sector has some arguably distinguishing features, the appellate decision was not unanimous, and it is entirely plausible that a more conservative circuit or even the U.S. Supreme Court could advance the district court's perspective.

17. *See* CUTTER ET AL., *supra* note 8, at 46-48. Even estimating emissions based on the exporting state's overall emissions would be highly inaccurate, because the imported power might not even come from that state. For example, California only borders three states, but it actually imports power from eleven Western states. Steven Ferrey, *Goblets of Fire: Potential Constitutional Impediments to the Regulation of Global Warming*, 35 ECOLOGY L.Q. 835, 864 (2008) (citing CAL. ENERGY COMM'N, 2006 NET SYSTEM POWER REPORT, CEC-300-2007-007 (2007), *available at* http://www.energy.ca.gov/2007publications/CEC-300-2007-007/CEC-300-2007-007.PDF).

18. *E.g.*, CAL. CODE REGS. tit. 17 § 95111(a)(1) ("The electric power entity must report GHG emissions separately for each category of delivered electricity required, in metric tons of CO_2 equivalent . . . according to the calculation methods in section 95111(b).").

19. Given Supreme Court precedent, it is theoretically possible for a state to obtain out-of-state data by deploying its own inspectors to out-of-state plants. *See* Dean Milk Co. v. City of Madison, Wis., 340 U.S. 349 (1951). However, emissions monitoring requires expensive technological installations, and sending regulators to dozens of power plants in neighboring states would raise costs even further. Additionally, if the regulating state were attempting to regulate instate and out-of-state emissions *identically*, it conceivably could have to forgo mandatory emissions reporting instate and send its inspectors to every instate power plant as well.

Together, leakage and the dormant Commerce Clause force most states to make a choice: either regulate imports and risk dormant Commerce Clause litigation, as California has done,[20] or ignore imports and risk leakage, as the Northeast's Regional Greenhouse Gas Initiative (RGGI) has done.[21] In sum, the interaction between the Commerce Clause and the interstate electrical grid creates one of the greatest obstacles to establishing an effective state-level climate regime.

III. THE "LONE GRID" STATE STANDS ALONE

So far, this Field Report has explained how the need for state climate regulations to combat interstate leakage implicates the dormant Commerce Clause. This part examines the interstate grid in closer detail and focuses on the one state that has bucked the national trend toward greater grid integration. The modern U.S. grid coalesced into its current, integrated form from the smaller, formerly isolated local grids that first sprung up in urban centers around the country.[22] These local grids expanded over time and eventually were connected to improve reliability and take advantage of economies of scale; grid interconnection was an afterthought, not the result of a long-term plan for a unified grid.[23] As a byproduct of this localized, piecemeal development, the U.S. power grid is actually comprised of three separate subregions. The Western Interconnect spans the eleven states west of Texas, including California. The Eastern Interconnect contains the rest of the contiguous United States, again excluding most of Texas. In what has been dubbed a "modern outlet" of the state's famous "secessionist inclinations," Texas itself is essentially on

20. CAL. HEALTH & SAFETY CODE § 38500–38599 (West 2007).

21. The RGGI program has taken this approach, regulating only instate sources and ignoring leakage. A 2010 model predicted leakage as high as 82 percent. ANDREW G. KINDLE & DANIEL L. SHAWHAN, AN EMPIRICAL TEST FOR INTER-STATE CARBON-DIOXIDE EMISSIONS LEAKAGE FROM THE REGIONAL GREENHOUSE GAS INITIATIVE 3 (2011), *available at* http://curent.utk.edu/files/8313/6724/4598/2013_Andrew_Kindle_RPI_Shawhan_2.pdf (internal citation omitted). To date, leakage has yet to be observed, but this is mostly because of the unanticipated switch from coal to cheap natural gas in the last few years. Emissions were a full 45 percent beneath the 2012 annual cap, so the RGGI program has yet to exert any real influence yet. ENVIRONMENT NORTHEAST, RGGI'S PAST AND FUTURE: EMISSIONS TRENDS AND POTENTIAL REFORMS 1 (2012), *available at* http://www.env-ne.org/public/resources/ENE_RGGI_Past__Future_121210.pdf. The 2013 cap has been revised downward, so leakage is likely to begin soon. Press Release, Regional Greenhouse Gas Initiative, RGGI States Propose Lowering Regional CO_2 Emissions Cap 45%, Implementing a More Flexible Cost-Control Mechanism (Feb. 7, 2013), *available at* http://www.rggi.org/docs/PressReleases/PR130207_ModelRule.pdf.

22. Klass & Wilson, *supra* note 6, at 1805. The first power transmission enabled Thomas Edison's steam engines to provide electric lighting in New York's financial district in 1882. *Id.*

23. *Id.* at 1808.

its own state grid, physically cut off from most interstate transmission lines.[24] This is no accident.

The Texas grid, known as ERCOT (Electric Reliability Council of Texas), covers 85 percent of the state's electric load[25] and excludes only El Paso and parts of the sparsely inhabited Panhandle and East Texas regions.[26] Its structural isolation provides no tangible instate benefits and is directly responsible for Texas having the lowest grid reliability in the country.[27] There is a single reason why Texas has spurned grid linkages throughout its history and continues to do so today: to avoid triggering federal oversight by participating in interstate commerce.[28]

Under Supreme Court precedent, any transmission of power over interstate lines establishes federal regulatory jurisdiction.[29] ERCOT does have a handful of connections to other grids, but thus far has succeeded in preventing those linkages from triggering federal regulation, sometimes resorting to dramatic action in its quest for regulatory freedom.[30] In fact, Texas so zealously resists federal jurisdiction that ERCOT is actually better connected to Mexico than it is to the rest of the United States.[31] Ironically, the state's stubborn independent streak and apparent willingness to endure rolling blackouts in the name of states' rights could provide a distinct environmental upside: as a result of its isolated grid, the Lone Star State, or perhaps the "Lone Grid" State, may actually be

24. Kate Galbraith, *Texplainer: Why Does Texas Have Its Own Power Grid?*, TEX. TRIBUNE (Feb. 8, 2011), http://www.texastribune.org/texas-energy/energy/texplainer-why-does-texas-have-its-own-power-grid/.

25. *About ERCOT*, ERCOT, http://www.ercot.com/about/ (last visited Dec. 3, 2013).

26. Kate Galbraith, *State Ranks Last in Electrical Reliability*, N.Y. TIMES (July 19, 2012) http://www.nytimes.com/2012/07/20/us/texas-ranks-last-in-electrical-power-reliability.html?_r=0.

27. *Id.*

28. Galbraith, *supra* note 24.

29. *See* Fed. Power Comm'n v. Fla. Power & Light Co., 404 U.S. 453, 454 (1972); Conn. Light & Power v. Fed. Power Comm'n, 324 U.S. 515, 529 (1945); Jersey Cent. Power & Light Co. v. Fed. Power Comm'n, 319 U.S. 61 (1943).

30. See, for example, Richard C. Cudahy, *The Second Battle of the Alamo: The Midnight Connection*, 10-SUM NAT. RESOURCES & ENV'T 56 (1995), for a fascinating account of one utility's attempt to trigger federal jurisdiction. In short, a multistate utility was going to be broken up if it did not connect its Oklahoma generators with its Texas generators, but met resistance from ERCOT. *Id.* at 56-57. In response, it activated some World War II-era infrastructure in the middle of the night and then informed the federal government and ERCOT that interstate commerce was presently commencing. *Id.* at 58. Upon hearing this news, Texan utilities rushed to effectively sever all connections with the area connected to the federal grid in an effort to quarantine the federal taint. *Id.* at 59. Under legal precedent, that should have triggered federal oversight, but Congress ultimately enacted a truce between the parties. *Id.* at 85-86.

31. Kate Galbraith, *Proudly Isolated Texas Power Grid Reaches Out a Bit*, N.Y. TIMES (Mar. 29, 2012), http://www.nytimes.com/2012/03/30/business/energy-environment/proudly-independent-texas-power-grid-reaches-out-a-bit.html. There are a number of proposals to connect the U.S. grids, but each of these multibillion-dollar projects faces strong headwinds. *Id.*

America's most promising candidate to enact a strong—and indisputably constitutional—state-level climate program.

IV. TEXAS AS THE IDEAL LOCATION FOR SUBNATIONAL CLIMATE REGULATION

In general, California seems like the best candidate for a strong climate program because its aforementioned comparative advantages make it more suitable for this task than any other similarly situated state. But not all states are similarly situated. Nearly every state's electrical grid is linked to its neighbors and thus vulnerable to leakage, as discussed in Part I. And nearly every state in America confronts the same difficulty in regulating imported electricity because of the Commerce Clause, as discussed in Part II. Of the states facing these structural hurdles, California is indeed the best candidate for regulation. Yet as discussed in Part III, Texas's uniquely isolated power grid frees it from the legal hindrance that burdens the rest of the Lower 48. This distinction sets it in a class of its own for the purposes of subnational climate regulation: Because Texas is the only contiguous U.S. state with essentially its own electrical grid, the state is likely better situated to implement a subnational climate program than any other.[32]

Were Texas to implement climate regulations, it would not need to address leakage on account of its grid isolation because electricity cannot be imported from other states if there is no grid interconnection.[33] By and large, the electricity consumed in Texas must be produced in Texas, so the state would not have any practical or legal difficulty in obtaining accurate emissions data for all of its instate electrical consumption based on the same methodology. Additionally, without the need to explicitly deal with leakage, Texas's regulations would not need to engage imported power at all and a state climate program would be effectively inoculated against a dormant Commerce Clause lawsuit. Thus Texas could enact a stronger, more legally defensible climate regulation than any other contiguous U.S. state.

This assertion is vulnerable to two countervailing factors. First, as noted above, although California may struggle with regulating imported power, it has a far more favorable political climate for carbon regulation than does

32. In fact, because of leakage issues on the international scale that are beyond the scope of this Field Report, Texas is likely better situated to implement its own climate program than most non-island countries. *See generally* Wiener, *supra* note 9.

33. Texas does import uncombusted fuel for instate power plants, but as long as the actual combustion occurs instate—as must occur because of the isolated grid—Texas can still obtain emissions data easily.

Texas. This primarily explains why California is already implementing a climate program while Texas refrains from action. Yet pieces of California's climate regime are already under attack on dormant Commerce Clause grounds, and more suits are expected to follow now that the Ninth Circuit has made its first ruling on the matter.[34] If critical components of California's AB 32[35] are struck down, particularly the central cap-and-trade program, that law will be no more effective than Texas's inaction.

Furthermore, a Texas climate program is not quite as dubious as it might seem at first blush. While Texas remains highly dependent on and sympathetic towards fossil fuels, it also leads the nation in wind power deployment, so clean energy is not anathema to all the established players in the Texas energy market.[36] Climate change is currently a partisan touchstone, but that could change relatively quickly: Texas is at risk from drought, flash floods, sea level rise, hurricanes, and tornados, and the severity of these events has been projected to increase in a warming climate. As extreme weather persists, if the risks of climate change become more publically accepted and addressing those risks becomes less of a political liability, Texas could eventually find some type of climate action well within its public interest.

That said, even if Texas does opt to address carbon pollution on a longer timeline, by then, a second factor could negate the advantage identified in this Field Report: ERCOT may become better connected to the rest of the U.S. grid in the not too distant future. Texas has suffered through severe blackouts in recent years, and pressure is mounting to integrate with nearby power grids. In fact, there are already a number of proposals to better integrate ERCOT, including multibillion-dollar attempts to join all three of the U.S. grid subregions into one giant grid.[37] If any of those projects succeed, ERCOT could well lose its isolation, and with it the entire comparative advantage discussed here. If the interconnections remain limited, then the threat of leakage would remain small and Texas could likely continue ignoring leakage without negating its climate efforts. Ultimately, though, once interconnection begins, Texas could be forced to regulate imports or risk leakage like every other state. But until then, Texas's regulatory advantage will endure.

34. *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070 (9th Cir. 2013).

35. CAL. HEALTH & SAFETY CODE § 38500–38599 (West 2007).

36. Jim Fuquay, *Texas Increases Its Lead in Wind Power*, FORT WORTH STAR-TELEGRAM (Apr. 11, 2013), http://www.star-telegram.com/2013/04/11/4769169/texas-increases-its-lead-in-wind.html.

37. Galbraith, *supra* note 31.

V. CONCLUSION

If Texas chooses to implement a state climate program, it will have a unique structural advantage that no other contiguous U.S. state enjoys. A program that need not address imported electricity would be simpler to implement and spare the state the added cost and uncertainty of Commerce Clause litigation. That said, in contemporary politics, the political climate trumps the planetary system, and Texas is not poised to regulate GHGs. Still, this Field Report set out to examine only the legal viability of a potential Texan climate regime, not its practical probability. Besides, times—and demographics—change.[38] If they do, and Texas maintains its isolated grid, Californians and the rest of the country could conceivably find themselves envying the strength and simplicity of an independent Texan climate regime.

38. *See, e.g.*, Ross Ramsey, *Democrats Aim to Turn Texas Shade of Blue*, N.Y. TIMES (Mar. 14, 2013), http://www.nytimes.com/2013/03/15/us/democrats-rally-in-a-gop-stronghold.html.