Wind Legislation Strategies for the Lone Star State

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AN HONORS THESIS

for the

UNIVERSITY HONORS COLLEGE

Submitted to the
University Honors College
at Texas Tech University in
partial fulfillment of the
requirement for
the degree designation of

HIGHEST HONORS

MAY 2018

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ABSTRACT

Texas introduced Senate Bill 277 as its first wind energy siting law during the 2017 Legislature. The bill combats radar interference between wind and military equipment by exempting any wind farm within thirty nautical miles of a military base from tax deductions. This rule does not make sense for several reasons: it defies the economic logic grounding Texas' decision to pursue wind energy, it addresses an issue traditionally handled by the federal government, and employs inefficient tactics the Department of Defense no longer uses. The inadequacies of this legislation point out that lawmakers misunderstand wind as a resource and that Texas property law does not account for the value of wind energy. This paper suggests laws to promote the Texas wind industry based on how Texas became the wind capital of America, how Texas defines similar property interests, and other states' wind legislation failures.

I. TEXAS WIND INDUSTRY

A. Introduction

Texas finds itself in a tumultuous environment where it must balance competing interests to determine viable solutions for climate change.[1] Increasing wind energy could reduce dangerous ties with foreign oil,[2] avoid the cyclical prices of oil and gas,[3] help meet the increasing energy demand,[4] and lessen emissions that may be to blame for the most recent hurricane season.[5] For Texas, wind energy shows qualities that make it the ideal first step to address climate change.[6] Texas has the most wind energy installations in the United States, sixth in the world,[7] because of its innovative programs and lack of regulations.[8] Senate Bill 277 (SB 277), passed by the 2017 Texas Legislature, exempts all wind farms within thirty nautical miles of a military base from tax incentives.[9] This legislation unnecessarily pits two entities (military and renewable energy) against each other and takes a step backward on the path Texas Legislators created to promote wind energy.[10] This paper congratulates Texas on what it did correctly, critiques the most recent legislation, examines what has been

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[1] *See Climate Change in Texas*, SOUTHERN CLIMATE (2013), http://www.southernclimate.org/documents/climatechange_texas.pdf.
[2] *See Oil Investment Tax Benefits*, TEXAS ENERGY GROUP (2013), http://www.texasenergygroup.com/tax_benefits#.WiHaA7Q-ffY.
[3] *See* Texas, *U.S. Gas Prices Continue To Surge In Harvey's Aftermath*, CBS DALLAS / FORT WORTH (Sept. 7 2017), http://dfw.cbslocal.com/2017/09/07/texas-u-s-gas-prices-surge-harvey/.
[4] *See EIA projects world energy consumption will increase 56% by 2040* U.S. ENERGY INFORMATION ADMINISTRATION (Jul. 25 2013), https://www.eia.gov/todayinenergy/detail.php?id=12251.
[5] *See* Craig Welch, *How Climate Change Likely Strengthened Recent Hurricanes*, NATIONAL GEOGRAPHIC (Sept. 20 2017), https://news.nationalgeographic.com/2017/08/hurricane-harvey-climate-change-global-warming-weather/.
[6] *See infra* notes 52-68, 83-92 and accompanying text.
[7] Jeff Mosier, *Can you harness the wind? Texas can, way better than everyone else*, DALLAS NEWS (Jan. 30 2018), https://www.dallasnews.com/business/energy/2018/01/30/texas-global-leader-wind-oil.
[8] *See generally State Policy- Case study in exemplary state policy*, AMERICAN WIND ENERGY ASSOCIATION (2013), https://www.awea.org/gencontentv2.aspx?ItemNumber=4361&mainnav=8191&navItemNumber=8208.
[9] *These bills target wind energy with ham-fisted 'fixes' based on baseless claims*, DALLAS NEWS (Mar. 29 2017), https://www.dallasnews.com/opinion/editorials/2017/03/29/claims-wind-energy-threatens-military-preparedness-hot-air. [hereinafter DALLAS NEWS]
[10] *See* id.

holding Texas back from creating effective legislation, and explains what Texas can do to continue growing the wind industry.

B. Current Wind Environment

Texas currently leads the way in wind energy capacity. As of June 2017, 21,450 mega-watts (MW) of installed wind power existed in Texas.[11] The wind industry employed more than 22,000 Texans and annually paid landowners more than sixty million dollars in lease payments since the first wind farm installation in 1999.[12] Texas wind energy saved twenty billion gallons of water, avoided nearly thirty-nine million carbon dioxide emissions, and powered more than five million homes during 2016 alone.[13] In 2017, Georgetown, Texas became the first Texas city to run entirely off of wind and solar electricity.[14] Denton, Texas plans to become the second 100% renewable city in Texas by the end of 2020, ending a contract with a coal plant in the process.[15] Texas accomplished all of this without defining wind as a property interest or implementing any siting or permitting regulations.[16] Texas' wind boom most likely resulted because of inventive programs such as the Renewable Portfolio Standard (RPS), Renewable Energy Credits (RECs) and Competitive Renewable Energy Zones (CREZ).[17]

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[11] *Texas Wind Energy*, AMERICAN WIND ENERGY ASSOCIATION (Jun. 2017), http://awea.files.cms-plus.com/FileDownloads/pdfs/Texas.pdf.
[12] Id.
[13] Id.
[14] Johnathan Tilove, *How Georgetown's GOP mayor became a hero to climate change evangelists*, MYSTATESMAN (23 Oct. 2017) http://www.mystatesman.com/news/local-govt--politics/how-georgetown-gop-mayor-became-hero-climate-change-evangelists/oI2GjTFlznD2zJasq1iYUL/ (The Georgetown mayor based this decision on economics because the contract based on renewables had a 20-25 year price guarantee while the natural gas contract only had a seven-year price guarantee.).
[15] Cyrus Reed, *Denton Poised To Become The Second 100% Renewable Energy City in Texas*, SIERRA CLUB (30 Jan. 2018) https://www.sierraclub.org/texas/blog/2018/01/denton-poised-become-second-100-renewable-energy-city-texas.
[16] See Rebecca Saathoff, *Which Way is the Wind Blowing? An Examination of Potential State Regulation of Wind-Powered Energy Generation in Texas*, 12 TEX. J. OIL GAS & ENERGY L. 197-220 (2017).
[17] *See generally* DALLAS NEWS *supra* note 9.

C. Renewable Portfolio Standard and Renewable Energy Credits

Texas created one of the first American Renewable Portfolio Standards (RPS) in 1999.[18] The Texas Legislature established it as the first renewable energy policy in Texas with almost unanimous support.[19] The bill created incremental goals for renewable energy use set in MW; the primary goal was to reach 2,000 MW of wind installation by 2009, yet Texas reached the goal in 2005.[20] Additionally, Texas already surpassed the 2015 and 2025 targets of 5,880 MW and 10,000 MW respectively.[21] Ernest E. Smith and Becky H. Diffen comment that the most effective aspect of RPS are RECs. Texas created RECs to act as a currency of sorts: "for every MW hour (MWh) of electricity generated from an eligible renewable generation source, an REC is also created. Utilities can then [use] those RECs…in order to meet their required level of renewable generation prescribed by RPS."[22] Texas only has 1,620 MW of solar installed[23] despite two RECs counting for each MWh of renewable energy other than wind,[24] meaning Texas met RPS goals mostly with wind energy. Texas also met RPS targets by imposing substantial penalties when companies do not comply with RPS.[25]

D. Competitive Renewable Energy Zones

A lack of transmission lines hindered Texas wind energy growth in the beginning.[26] As a result, developers avoided rural areas (the Panhandle and West Texas) that had wind potential but lacked the infrastructure necessary to transport energy.[27] McCamey, Texas, declared by the Texas Legislature as the "Wind Capitol of Texas in 2001," brought the transmission problem to light when the area produced so much energy that The Electric

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[18] Ernest E. Smith & Becky H. Diffen, *Winds of Change: The Creation of Wind Law*, 5 TEX. J. OIL GAS & ENERGY L 165-214 (2010).
[19] Id. at 172.
[20] Id.
[21] Id. at 171.
[22] Id. (Texas was the first state to create RECs).
[23] *Texas Solar*, SOLAR ENERGY INDUSTRIES ASSOCIATION, (2017) https://www.seia.org/state-solar-policy/texas-solar.
[24] Felix Mormann, et al., *A Tale of Three Markets: Comparing the Renewable Energy Experiences of California, Texas, and Germany*, 35 Stan. Envtl. L.J. 92 (2016).
[25] Brent Stahl, et al., *Wind Energy Law and Incentives A Survey of Selected State Rules*, 49 WASHBURN L.J. 109 (2009).
[26] Becky H. Diffen, *Competitive Renewable Energy Zones: How the Texas Wind Industry is Cracking the Chicken & Egg Problem*, 46 ROCKY MOUNTAIN MIN. L. FOUND. J. 65-66 (2009).
[27] Id. at 62-64.

Reliability Council of Texas (ERCOT) had to stop production.[28] ERCOT's demand resulted in developers breaching contracts because they could not provide promised power amounts[29] while others could not sell what they generated.[30] ERCOT increased the capacity in this area by 1,000 MW for $157 million with the help of the Public Utilities Commission of Texas (PUCT) but continued hiccups such as long wait times and capital requirements caused developers to leave McCamey.[31] Industry experts coined this obstacle "the chicken and egg problem" because developers will not construct wind farms in a state with inadequate transmission lines, but states will not build transmission lines without wind farms.[32] Additionally, developers can obtain permits and construct wind farms much quicker than transmission lines.[33]

1. Senate Bill 20

The Texas Legislature addressed the chicken and egg problem by enacting Senate Bill 20 in 2005, amending § 39.904 of the Texas Utilities Code,[34] which assigned PUCT to build transmission lines in Competitive Renewable Energy Zones (CREZs).[35] The bill instructs ERCOT and PUCT to "develop a plan to construct transmission capacity necessary to deliver to electric customers, in a manner that is most beneficial and cost-effective" while considering how to fund the project.[36] The PUCT ordered ERCOT to determine potential CREZs based on wind energy potential, cost to construct transmission lines and benefits of building in that zone.[37] ERCOT identified twenty-five areas by 2006 and decided to develop 18,456 MW of wind generation in four of those regions: the Gulf Coast, McCamey, Central West Texas, and the Panhandle.[38] The project resulted in 3,600 miles of new transmission lines for $7 billion, decreasing wind energy transmission curtailment from 17% to .5%.[39]

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[28] Id. at 65.
[29] *See* FPL Energy, LLC v. TXU Portfolio Mgmt. Co., 426 S.W.3d 59, 62 (Tex. 2014).
[30] Diffen *supra* note 26 at 65.
[31] Id. at 66-67.
[32] R. Ryan Staine, *CREZ II, Coming Soon to a Windy Texas Plain Near You?: Encouraging the Texas Renewable Energy Industry Through Transmission Investment*, 93 TEX. L. REV. 528 (2014), Diffen *supra* note 26 at 66.
[33] Staine *supra* note 32 at 528.
[34] Tex. Util. Code § 39.904.
[35] *See* Smith, Diffen *supra* note 18 at 172.
[36] Tex. Util. Code § 39.904(g).
[37] 16 Tex. Admin. Code § 25.174(b.4).
[38] Staine *supra* note 32 at 529.
[39] Mormann *supra* note 24 at 81.

2. Competitive Renewable Energy Zones Success

CREZ solved the chicken and egg problem because it focused on the regions with the greatest wind resources, rural areas that required interconnection the most, and the most expensive zones to build transmission lines. For example, of the four regions, Texas forwent developing the Gulf Coast because it had the least wind potential and cost the least to build (15 million compared to 376, 320 and 265 million for the other three regions).[40] Additionally, this area required transmission lines to pass through the picturesque Hill Country. Texas reacted appropriately to avoid that area once it saw opposition from property owners and probably avoided litigation that would have hindered or stopped the project altogether.[41] Texas also solved transmission problems by making residents pay for the transmission lines through taxes, instead of relying on power retailers.[42]

E. Why Other States are Trailing Behind Texas

1. California

To further illustrate how Texas used incentives and original ideas to become the wind superpower of the United States, consider California's wind industry. California had the most installed wind capacity in the United States until 2006,[43] despite having weaker wind quality than Texas, because it first incentivized wind in the 1980s[44] and built the first American commercial wind farm in 1981.[45] Now, California imports renewables[46] to keep on pace with its aggressive RPS.[47] California's version of CREZ, RETI (2008), had less success because it did not consider a financial resource, a group of private parties without the authority to build transmission lines created it, and the Federal Energy Regulatory Commission controls

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[40] Staine *supra* note 32 at 530.
[41] *See* Kaitlyn Luck, *They Call it the Hill Country, I Call it Home: Issues in Siting Wind Energy Transmission Lines in Texas*, 14 TEX. TECH. ADMIN. L. J. 247-270 (2012).
[42] Staine *supra* 32 at 533.
[43] Saathoff *supra* note 16 at 209 (Notice this was near the time Texas implemented CREZ).
[44] Id. at 209 (the first US state to incentivize wind).
[45] Id.
[46] Jude Clemente, *California's Growing Imported Electricity Problem*, FORBES ENERGY, (Apr. 3 2016) https://www.forbes.com/sites/judeclemente/2016/04/03/californias-growing-imported-electricity-problem/#5720b9804469.
[47] *Renewables Portfolio Standard*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (Apr. 19 2017), http://programs.dsireusa.org/system/program/detail/840 (fifty percent of all electricity sold must come from renewables by 2030).

California's electric gridlines.[48] California may also produce less wind energy than Texas because it focused on developing solar energy at the same time.[49]

2. Unique Legal Environment and Lack of Regulation

Texas has the most installed wind capacity in the United States for reasons besides CREZ, RPS, and RECs. Texas also has a unique legal environment, allowing it to have the most wind energy installed without having the most wind potential. In fact, the Blackfeet reservation in Montana has the highest wind potential in the United States.[50] Government protection makes wind energy development on the reservation complicated because the federal government owns almost twenty-nine percent of Montana's land,[51] whereas the government owns less than two percent of Texas' land.[52] Texas' lack of regulated land also explains why it generates more wind energy than California because its government controls almost half[53] of its land. The regulated land includes eighty percent of the desert, one of the best locations for wind energy in California.[54] The National Renewable Energy Laboratory calculated technical onshore wind power for the United States, removing land areas that are "unlikely to be developed, such as urban areas, federally protected lands, and onshore water features," to find that Texas has the highest at over five million giga-watt hours (GWh).[55]

In addition to a lack of land regulation, Texas has the unique advantage of exclusively controlling its electric gridlines. The Federal Energy Regulatory Commission (FERC) controls almost every other electric grid in the United States and most gridlines cross state lines, whereas Texas' remain within its borders.[56] Texas created CREZs by avoiding these

[48] Staine *supra* note 32 at 537.
[49] *See* Mormann *supra* note 24.
[50] MARTIN J. PASQUALETTI, et al., WIND POWER IN VIEW: LANDSCAPES IN A CROWDED WORLD (2002).
[51] *Federal land policy in Montana*, BALLOTPEDIA (2013), https://ballotpedia.org/Federal_land_policy_in_Montana.
[52] *Federal land policy in Texas*, BALLOTPEDIA (2013), https://ballotpedia.org/Federal_land_policy_in_Texas.
[53] *Federal land policy in California*, BALLOTPEDIA (2013), https://ballotpedia.org/Federal_land_policy_in_California.
[54] Saathoff *supra* note 16 at 211.
[55] *See* Anthony Lopez, et al., *U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis*, NATIONAL RENEWABLE ENERGY LABORATORY 14 (2012). (The next highest is Kansas at just over 3 million GWh).
[56] Id. at 525.

regulations. The Texas Legislature allowed PUCT to ignore "the adequacy of existing service and the need for additional service"[57] when developers applied for permits during CREZ.[58] They also prevented connection to the Southwest Power Pool (SPP) and instead connected the Panhandle wind energy into ERCOT, avoiding regulation from other states or FERC.[59] Texas made a conscious decision to evade controlling policies while completing CREZs.

Other policy choices regarding the Texas wind industry avoid restrictive rules. Besides the new legislation, no siting rules exist for wind in Texas, only wind leases and the accommodation doctrine[60] control the placement of wind turbines.[61] Most states have a permitting process or setback regulations that influence turbine placement.[62] Texas does not have a state permitting process, so developers only have to apply for the Federal Aviation Association (FAA) permits.[63] Additionally, Texas wind farms do not have to consider any wildlife laws.[64] California regulates wind farms locally, and all developers must consider potential environmental impacts under the California Environmental Quality Act.[65] Texas does not require the Texas Parks and Wildlife department to participate in wind energy development because no local or state permitting process exists and the department will only advise if invited by the developer.[66] Texas legislators almost passed a "bill that would have created a permitting process for wind developers requiring certification by the Texas Commission on Environmental Quality" in 2008.[67] Perhaps the bill stalled because lawmakers knew that this would hinder wind energy development. In fact, the lack of regulation allowed Texas wind energy to grow while developers left other states (i.e., California) due to "overregulation."[68] Considering the lack of influence strict laws had on growing the Texas wind industry, SB 277 does not fit within Texas' previous wind policy approach.

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[57] Tex. Util. Code § 37.056(c) (1) and (2).
[58] Tex. Util. Code § 39.904(h).
[59] Staine *supra* note 32 at 531.
[60] *See infra* notes 291-292 and accompanying text.
[61] Saathoff *supra* note 16 at 198.
[62] Id. and *infra* notes 323-327 and accompanying text.
[63] Saathoff *supra* note 16 at 204 (The FAA requires all states to do this.).
[64] Melanie McCammon, *Environmental Perspectives on Siting Wind Farms Federal Control Warranted?*, 17 N.Y.U. ENVTL. L.J. 1265 (2009).
[65] Id.
[66] Id.
[67] Id.
[68] Id. at 216.

3. Texas Wind Energy Tax Policy

Texas incentivizes both commercial wind and small wind through taxes. Texas exempts businesses from the franchise tax when their sole purpose is "manufacturing, selling or installing solar or wind energy devices."[69] Texas also allows corporations to deduct the cost of a wind energy device.[70] The Texas Tax Code allows a tax exemption based on an appraised property value increase upon installation of a "wind-powered energy device" or devices used to store energy for on-site use.[71] Local officials grant abatements based on guidelines provided by the Texas Comptroller[72] and may revoke them based on the degree of local opposition.[73] Texas provides this authority to local governments to "foster job creation and economic development."[74] Tax incentives act as a critical component of Texas' wind energy development; so much so that the 2017 Republican tax reform bill could have prevented $11 billion worth of Texas wind energy projects.[75] The House Bill reduced the current federal 2.3-cents-per-kilowatt-hour tax credit to 1.5 cents and removed production tax credits before the previously scheduled phase-out, while the Senate Bill retained them.[76] The changes may respond to several conservative groups opposing "renewable energy tax credits as anti-free market,"[77] because the House Bill increased tax

[69] Tex. Tax Code § 171.056 (This incentive has no ceiling. The franchise tax is Texas' version of the corporate tax).
[70] Tex. Tax Code § 171.107 (Deducted from the franchise tax in two ways: the total cost of the system may be deducted from the company's taxable capital or 10% of the system's cost may be deducted from the company's income.).
[71] Tex. Tax Code § 11.27 (2014) (devices constructed on or after January 1 2014, for commercial use are subject to the cost method of appraisal, and the depreciated value is based on a useful life of 10 years or less.).
[72] *Solar and Wind-Powered Energy Device Exemption and Appraisal Guidelines*, TEXAS PROPERTY TAX (2016).
[73] McCammon *supra* note 64 at 1263.
[74] Roger A. McEwoen, *Wind Energy Production: Legal Issues and Related Liability Concerns for Landowners*, IOWA STATE UNIVERSITY (2011) (This source explains that Texas' local approach is unique).
[75] Jeff Mosier, *Texan wind energy projects worth about $11 billion in limbo after U.S. House tax vote*, THE DALLAS MORNING NEWS (2017) https://www.dallasnews.com/business/energy/2017/11/15/texas-wind-energy-projects-worth-11-billion-threatened-us-house-tax-vote-thursday.
[76] Ari Natter, *Tax Compromise Keeps Wind and Electric-Car Credits, Source Says*, BLOOMBERG POLITICS (Dec. 13 2017) https://www.bloomberg.com/news/articles/2017-12-28/banks-offer-cash-strapped-clients-a-way-to-game-trump-s-tax-plan.
[77] Moiser *supra* note 75.

breaks for oil and gas and nuclear energy.[78] A North Dakota coal plant employee commented "the production tax credit has destroyed the market…wind production has eroded our state tax base and replaced coal production when it comes to electricity production."[79] The chief of the Environment Protection Agency agrees with the House Bill and thinks renewables should stand on their own like "coal and natural gas."[80] However, renewables need tax incentives because they are a developing technology unlike coal and fossil fuels, which the House Bill had no problem supporting. Some negative attitudes surrounding wind energy taxes derive from a preference of older energy sources as shown by the House Bill supporting other resources over wind. Fortunately, Senators from Iowa and South Dakota (two other states with high wind energy capacity) successfully advocated for the final bill to retain the wind production tax credit.[81] Therefore, the "safe harbor provision that allows companies to secure a tax credit" after paying for five percent of the total project and the phase-out plan that began in 2016 remains.[82] The effect that the federal cuts almost had on the Texas wind industry shows how tax incentives foster growth and the gravity of exempting specific wind farms from obtaining them.

F. Future Texas Wind Industry

The Department of Energy (DOE) predicts Texas wind energy could power 15.4 million homes by 2030.[83] The National Renewable Energy Laboratory (NREL) predicts a land-based wind generation potential of 1,429,747 MW for turbines 360 feet and taller in Texas.[84] Texas has a technical offshore wind potential of over one million giga-watt hours,[85] and offshore wind turbines could serve as a barrier to lessen the effects of hurricanes that plague the gulf coast.[86] During hurricane Harvey, so many

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[78] Brad Plumer and Jim Tankersley, *Renewable Energy is Surging. The G.O.P. Tax Bill Could Curtail That*., THE NEW YORK TIMES (Dec. 7 2017). https://www.nytimes.com/2017/12/07/climate/tax-overhaul-energy-wind-solar.html.
[79] Id.
[80] Id.
[81] Id.
[82] Mosier *supra* note 75 (The original phase out allows any project that began in 2016 to receive 100% of the tax credit, 2017 receives 80%, plan 2018 receives 60% and so on.).
[83] *Texas Wind Energy supra* note 11.
[84] Id.
[85] *See* Lopez *supra* note 55 at 15 (This calculation includes non-supported areas such as pipelines and easements, Audubon sanctuaries, ship channels, national wildlife refuges, shipping safety fairways, state coastal preserves, etc.).
[86] Melissa C. Lott, *Wind turbines could reduce damage from hurricanes without breaking themselves,* SCIENTIFIC AMERICAN (Mar. 12 2014),

oil refineries shut down that twenty percent of the United States gasoline production was offline while wind power still contributed to thirteen percent of Texas' electricity (it usually contributes twenty percent).[87] Texas has not fully explored the potential of its Gulf Coast winds that strongly blow day and night.[88] These winds have a rare advantage because most winds blow greatest during the night when energy use is lowest.[89] Due to strong convection currents "caused by the gap between the temperature on the water and land," turbines near Padre Island contributed to the average peak electricity price decreasing 55 percent in the last five years to $25.43 per megawatt hour.[90] The 900 turbines in this area have been so successful that they upset nearby gas-powered generators.[91] Texas also has the sole benefit of owning its waters out to 10.3 miles (most states only have 3 miles).[92] Therefore, Texas could utilize unregulated waters just as they have unregulated land to grow wind energy.

The second version of CREZ, Panhandle Renewable Energy Zones (PREZ), has been put on hold out of fear to spend more on wind energy.[93] Undeveloped infrastructure increases the cost of constructing wind energy at the moment, but wind energy will cost less than other resources once fully developed.[94] Other sources of energy require similar startup costs; such as pipelines for oil and gas and refineries and waste storage for nuclear power. A University of Texas study conducted in 2015 named wind the cheapest source of energy, therefore the investment will pay off.[95]

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https://blogs.scientificamerican.com/plugged-in/wind-turbines-could-reduce-damage-from-hurricanes-without-breaking-themselves/ (can reduce wind speeds by up to 50% and storm surges by 6-79%).

[87] Juan Cole, *Texas Wind turbines went right on Turning under Harvey's impact, as Refiners Shut Down*, INFORMED COMMENT (Sep. 2 2017), https://www.juancole.com/2017/09/turbines-turning-refineries.html.

[88] Ryan Collins, *In cattle country, rare wind gusts upend the Texas energy market*, BLOOMBERG NEWS (Jun. 25 2017) http://www.denverpost.com/2017/06/25/wind-cattle-texas-energy/.

[89] Id.

[90] Id.

[91] Id.

[92] 43 U.S.C. § 1301(c).

[93] *See* Staine *supra* note 32 at 534.

[94] Wind Farms: Compatible with Military Readiness?: Hearing Before the Subcommand. On Readiness of the Comm. on Armed Services H.R., 111 Cong. 9-11 (2010) [hereinafter Military Readiness].

[95] *Natural Gas and Wind are the Lowest-Cost Generation Technologies for Much of the U.S., New UT Austin Research Shows*, THE UNIVERSITY OF TEXAS AT AUSTIN (Dec. 8 2016), https://news.utexas.edu/2016/12/08/natural-gas-and-wind-are-the-lowest-cost-for-much-of-us.

Texas legislators created RPS, RECs, CREZ, and tax policy to promote the wind industry.[96] More importantly, legislators avoided restrictive rules that would hinder wind energy growth.[97] For these reasons, SB 277 contradicts Texas' wind industry because it disallows the tax incentives that allowed growth and implements unnecessary limitations.[98]

II. SENATE BILL 277: TEXAS' REACTION TO RADAR INTERFERENCE

Texas introduced its first siting regulation at the 2017 Legislature through Senate Bill 277 and House Bill 445.[99] These bills disallow any wind farms within thirty nautical miles of a military base to receive tax incentives.[100] The governor signed SB 277 in June 2017, and it became effective in September 2017.[101] The bill states its intention to protect and preserve "military aviation facilities" and operations or training from "unintended consequences occurring" from the construction or installation of nearby wind-powered energy devices.[102] The term "consequences" refers to wind turbine blades negatively interfering with radar signals intended for military aviation.[103] The following section shows that SB 277 implements old federal methods industry experts consider ineffective.

A. Wind Farms: Compatible with Military Readiness? (111th Congress)

Wind energy and military authorities indicated during the 111th Congress that approaches similar to SB 277's would not solve radar interference. Stu Webster stated, "because of the different kinds of radar, different missions, and varying terrain…it would likely be unnecessarily restrictive to establish a one-size-fits-all rule for siting near a military asset of concern**.**"[104] The problem also does not depend on mileage as the recent legislation suggests. General Stutzriem agreed that "some farms…could be within a few miles and not be a problem and others somewhere else…could be a problem," restating that interference varies based on the environment

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[96] *Supra* notes 18-25, 34-39, 69-74 and accompanying text.
[97] *Supra* notes 52-68 and accompanying text.
[98] *Infra* notes 104-114 and accompanying text.
[99] Codified at Tax Code § § 312.0021(b), 313.024(b-1).
[100] Id.
[101] *Texas SB277 | 2017-2018 | 85th Legislature*, LEGISCAN, https://legiscan.com/TX/bill/SB277/2017.
[102] Id.
[103] DALLAS NEWS *supra* note 9.
[104] Military Readiness *supra* note 94 (statement of Stu Webster, co-chairman of the Siting Comm., American Wind Energy Association).

and the radar type.[105] Instead of blaming wind farms exclusively, Texas legislators should consider that most radar problems occur because of outdated military equipment[106] and replacing said equipment costs less than wind farm construction.[107] It does not make sense to prevent the construction of wind farms when the Department of Defense (DoD) could replace old radars for a lower cost and wind farms could save the DoD money. Wind turbines exist on active military bases in California, Utah, Arizona, Arkansas, and Hawaii.[108] The first installation saved a Utah base $200,000 annually.[109] Promoting wind energy would also save money because "sixteen to eighteen percent of the total defense budget" is used for "protecting the sea lanes in the Gulf of Hormuz so we can have oil."[110] A representative for the subcommittee on readiness stated "the Department [of Defense] supports the development of wind energy as a means towards greater energy security goals"[111] to fulfill the DoD's responsibility to eliminate our need for foreign oil.[112] The DoD can also benefit from nearby wind farms because "onsite or close-range offsite renewable energy" would protect them from "disruptions in the main power grid…without depending on fuel operated backup generators."[113]

Beyond replacing radar equipment, the DoD could ask developers to use particular "stealth composite [turbine] blades which absorb radar signals instead of bouncing the signals."[114] Since the DoD can profit from the increase of wind energy and other options exist besides removing tax incentives, the most recent Texas legislation applies unnecessary regulations.

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[105] Id. at 18 (General Stutzriem works for the North American Aerospace Defense Command (NORAD)).
[106] Id. (most equipment is from the 1960s).
[107] *See* Michael Brenner, *Wind Farms and Radar,* FEDERATION OF AMERICAN SCIENTISTS (2008), https://fas.org/irp/agency/dod/jason/wind.pdf ("The cost of a single radar installation was said to be in the range of $3–8M, to be compared with the $2–4M cost of a single wind turbine, and the roughly $0.5M annual electric production of a single turbine (5×106 kWh, at $0.10/kWh retail").
[108] Jeremy S. Scholtes, *On Point for the Nation: Army and Renewable Energy*, 34 ENERGY L. J. 60 (2013).
[109]Id. at 82.
[110]Id. at 21.
[111] Military Readiness *supra* note 94 at 6.
[112] National Defense Authorization Act for Fiscal Year 2008, 110 H.R. 4986.
[113] Scholtes *supra* note 108 at 87.
[114]Id. at 86.

B. How the Department of Defense Addressed Radar Interference Over Time

Texas made an odd decision to make its first wind regulation concerning radar interference because the federal government traditionally handles this issue. In the beginning, the Federal Aviation Association (FAA) worked with the DoD to determine if a potential wind farm interfered with a military base.[115] When performing this task, the FAA neglected its duty to promote "the efficient use of navigable airspace."[116] For example, the FAA prevented wind farms from being built, up to sixty miles away[117] in some cases and regulated non-navigable airspace (below 500 feet in rural areas)[118] since most turbines are 450 foot tall or lower.[119] Additionally, it did not grant easements as compensation when it prevented project construction.[120]

The FAA also considers how wind projects interfere with general aviation.[121] It has ignored its duties completing this task as well, as it was the only permit that a group of homeowners invalidated during the infamous Cape Wind project.[122] Cape Wind, the first American offshore wind project, consisted of over one hundred 440 foot high wind turbines.[123] It planned to take up twenty-five miles of the Horseshoe Shoal and would stand five to fourteen miles from land.[124]A band of nearby property owners, calling themselves the "Alliance," began a string of litigation in 2002 that finally succeeded in 2010 when the court found the FAA's "no hazard" decision arbitrary and capricious.[125] The court invalidated the permit because the FAA could not reasonably defend why it issued the permit, it only considered that the turbines stood below 500 feet.[126]

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[115] *See DoD Preliminary Screening Tool*, FEDERAL AVIATION ADMINISTRATION (2014), https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showLongRangeRadarToolForm.
[116] 49 U.S.C. § 40103(b) (2006).
[117] Troy A. Rule, *Property Rights and Modern Energy,* 20 GEO. MASON L. REV. 828 (2011).
[118] 14 CFR 91.119.
[119] Troy A. Rule, *Airspace in a Green Economy*, 59 UCLA L. REV. 307 (2011).
[120] Id. at 306.
[121] Heidi Willers, *Grounding the Cape Wind Project: How the FAA Played into the Hands of the Wind Farm Opponents and What We Can Learn From It,* 77 J. AIR L. & COM. 606 (2012).
[122]Id. at 617.
[123] Id. at 613.
[124] Id.
[125] Id. at 606.
[126] Id. at 626.

The FAA acted so inconsistently[127] that The National Defense Authorization for Fiscal Year 2011 (FY2011) created the DoD clearinghouse to supervise radar interference alongside the FAA.[128] The statute emphasizes the DoD's responsibility to promote renewable energy "while minimizing or mitigating any adverse impacts on military operations and readiness."[129] In the instance of Cape Wind, the FAA under-regulated by not researching all potential hazards the wind farm could present and it overregulated by denying (instead of mitigating or minimizing) several wind farm permits due to inference with old radar equipment.

1. National Defense Authorization Act for Fiscal Year 2018

The federal government further updated how it addresses military and wind energy interactions in the National Defense Authorization Act for Fiscal Year 2018 (FY2018) by including several provisions regarding how climate change and energy projects impact national security.[130] The sense of Congress expresses "climate change is a direct threat to the national security of the United States."[131] Congress requests a report from the Secretary of Defense, similar to that of CREZ, identifying ten American military installations most vulnerable to climate change.[132] The report must include "mitigations that may be necessary to ensure mission resiliency."[133] Congress does not define the term "mitigation," but that word implies methods to combat the sources of climate change (such as increasing wind

[127] 49 USCS § 44718 (This section outlines the establishment of a clearinghouse to "coordinate Department of Defense review of applications for projects filed with the Secretary of Transportation" and addresses how the FAA "violated its duty to evaluate impact of proposed structures on planned airport by issuing informal decision finding that proposed wind farm with dozens of 400-foot turbines would not pose threat to new commercial airport 10 miles away." This incident occurred in 2008 while the clearinghouse was established in 2010.).

[128] *Ike Skelton National Defense Authorization Act for Fiscal Year 2011,* 111 P.L. 383, 124 STAT. 4137 (codified at 49 USCS § 44718).

[129] 49 USCS § 44718(a).

[130] The National Defense Authorization Act for Fiscal Year 2018, H.R. 2810, 115th Cong. §§ 311- 2837 (2017). [hereinafter FY2018]

[131] Id. § 335.

[132] Id. ("based on the effects of rising sea tides, increased flooding, drought, desertification, wildfires, thawing permafrost and any other categories the Secretary determines necessary").

[133] Id.

energy) whereas "adaptation" refers to the tackling the consequences of climate change (such as building seawalls to address rising sea levels).[134]

Section 311 of FY2018 requires the Secretary of Defense to establish a Military Aviation and Installation Assurance Siting Clearinghouse ("the Clearinghouse") to review applications for energy projects with the DoD.[135] The Clearinghouse will assume the work of the FAA and the DoD Clearinghouse[136] established in 2010.[137] New rules include the Clearinghouse conducting a preliminary review within sixty days of receiving an application for an energy project.[138] The review will address "any adverse impact…on military operation and readiness; and identify any feasible and affordable actions that could be taken by the Department, the developers or others" and the developer must file at least one year before expected construction.[139] Section 311 suggests the DoD take actions to prevent radar inference, instead of placing all the blame on developers. This provision will allow the military to identify problems in proposed projects sooner. At the 111th United States Congress, the DoD expressed that they did not have enough time to review wind projects because developers only had to file thirty days before the beginning of construction.[140] The latest procedures will allow the military to pass more wind projects and differs from the FAA's past methods.[141]Additionally, the emphasis on climate change shows that Congress recognizes the need for renewable energy.

FY2018 also has an entire section dedicated to energy resilience that encourages the Secretary of Defense to "use renewable energy sources, pursue energy security and energy resilience by giving favorable consideration to projects that provide power directly to a military facility."[142] FY2018 promotes the use of renewables near military bases in response to the issues of climate change and airspace conflicts, while Texas' most recent legislation does the opposite. SB 277 mimics the early

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[134] Jordan Brunner, *Congress Adapts to Calamity: The FY 2018 NDAA's Climate Change Provisions*, LAWFARE (2017), https://lawfareblog.com/congress-adapts-calamity-fy-2018-ndaas-climate-change-provisions.
[135] Id.
[136]Id. (§ 311.b repeals § 358(b)(1)(B), 124 Stat. at 4198 (where the original clearinghouse was established).
[137] *See About the Clearinghouse*, DOD SITING CLEARING HOUSE, https://www.acq.osd.mil/dodsc/about/index.html
[138] Id.
[139] Id.
[140] Military Readiness *supra* note 94.
[141] *Supra* notes 116-129 and accompanying text.
[142] FY2018 *supra* note 130 § 2831.

federal laws and permitting process that allowed the FAA to infringe on private property rights and inefficiently use land and airspace.[143]

C. Why SB 277 Does Not Make Sense for Texas

SB 277 does not seem to fit into Texas' legal environment because it takes away the incentives that allowed wind to develop.[144] As shown in section one's in-depth overview, Texas' wind energy increased because it created innovative incentive programs and transmission guidelines for the wind industry instead of focusing on regulation. Texas' wind industry has also multiplied because the federal government does not control most of its land and electric gridlines. SB 277 has overly restrictive rules as shown by professionals rejecting similar solutions and national programs moving past comparable procedures.[145]

Texas promoting wind over other renewables is a result of economic and policy choices.[146] For example, Texas has the highest technical potential for solar energy in the United States,[147] but since its RPS lacks a specific goal for solar installation, developers chose wind because it has a lower up-front cost.[148] The higher investment required for solar also deters development in Texas because of its low electricity prices.[149] Texas avoided exporting energy and cross-border transmission projects to prevent helping other states while increasing Texans' electricity bills.[150] Based on these facts, the most recent legislation is a step back on Texas' path to promoting wind because it contradicts the economic logic grounding Texas' wind policy decisions. From an economic standpoint, it makes more sense to replace old radar equipment because that is the cheaper alternative.[151] Additionally, the fact that removing the federal production tax credit for wind would stall $11 billion worth of projects shows the gravity of

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[143] *See* Rule *supra* note 117 at 829-830.
[144] *Supra* notes 69-74 and accompanying text.
[145] *Supra* notes 104-114, 135-141 and accompanying text.
[146] Claire Foran, et al., *Why Is Texas Terrible at Producing Solar Power?*, THE ATLANTIC (2014) https://www.theatlantic.com/politics/archive/2014/05/why-is-texas-terrible-at-producing-solar-power/445221/.
[147] *See* Lopez *supra* note 55 at 8 (2012) (Texas has the highest potential for rural and urban utility-scale and concentrating solar power.).
[148] Foran *supra* note 146.
[149] Id.
[150] David A. King, *Interregional Coordination of Electric Transmission and Its Impact on Texas Wind*, 8 TEX. J. OIL GAS & ENERGY L. 342 (2013).
[151] *Supra* notes 106-113 and accompanying text.

disallowing tax incentives.[152] Essentially, enacting SB 277 disallows wind farms to be within thirty nautical miles of a military base.

III. AIRSPACE AND WIND ENERGY

SB 277 shows the stiff competition in airspace among the military and wind energy. Texas and California, two of the most prominent wind producers in the United States, also have the most military bases (11 and 19 respectively).[153] Therefore, the states which rank second and third for most land space also have the most airspace rivalry.[154] It makes sense that Texas enacted SB 277 to address competition in the sky, but the new law does not promote the wind industry. Instead, it allows the FAA and DoD to continue unfairly regulate non-navigable airspace without compensating wind industry developers or surface owners.[155] FY2018 and Texas' recent legislation use very different approaches to mitigate conflicts between the wind industry and military equipment. What happens if the Clearinghouse approves a Texas wind farm within thirty nautical miles of a military base? Do the developers still not receive tax incentives? Both of these new laws bring an essential question to the forefront: does the federal government or the state regulate non-navigable airspace?

A. Airspace Regulation

As technology in airspace grows (drones, solar energy, and wind energy) the FAA's responsibility extends.[156] Wind energy forced federal regulation into unexplored territory: non-navigable airspace (below 500 feet for rural areas and below 1000 feet for cities).[157] Historically, federal responsibility only extended to navigable airspace.[158] In 1986, a new term appeared, the National Airspace System (NAS), in two federal laws and "in sixteen different sections of the U.S. Code, [but] it is not defined by statute."[159] Title 32 (regarding national security regulations) includes the

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[152] *Supra* note 75 and accompanying text.
[153] H. Brendam Burke, *Dynamic Federalism and Wind Farm Siting*, 16 N.C. J.L. & TECH. 1 (2014).
[154] *Size of States*, STATE SYMBOLS USA, https://statesymbolsusa.org/symbol-official-item/national-us/uncategorized/states-size.
[155] *Supra* notes 116-129 and accompanying text.
[156] *See generally* Stephen J. Migala, UAS: Understanding the Airspace of the States, 82 J. AIR L. & COM. (2017).
[157] Id. at 81.
[158] Id. at 12.
[159] Id. at 46.

only definition of NAS: "The NAS consists of the overall environment for the safe operation of aircraft that are subject to the FAA's jurisdiction…it includes system components used by the DoD."[160] Based on this description, the wind permits the FAA denied thus far did not invade private property since radar equipment or "system components by the DoD" would be a part of the navigable airspace. However, since this classification appears so infrequently in federal law and it contradicts how laws defined navigable airspace in the past; it is unclear whether this applies.[161] FY2018 says that a "proposed construction" that could "significantly impair or degrade the capability of the Department of Defense to conduct training" in the "navigable airspace," is an "unacceptable risk to the national security of the United States."[162] This definition also allows the federal government to control part of the non-navigable airspace because wind farms act as a "proposed construction."

The debate regarding what portion of airspace the federal government regulates has existed for more than one hundred years because some legislators purposely avoided this topic.[163] Section four of the Air Commerce Act of 1926 (1926 Act) allowed states to regulate their airspace "so long as they did not conflict with airspace reservations made by the President or with any civil or military airway."[164] The federal government may not allow SB 277 because it conflicts with the rules laid out in FY2018 regarding military airspace. The Federal Aviation Act of 1958 omitted the section specifying that states regulate their non-navigable airspace. Nevertheless, the legislative history of this act does not indicate Congress' desire to prohibit this right and states continue to create airspace laws.[165] Nineteen states have statutes asserting the "sovereignty of their own airspace," but Texas does not.[166] Stephen J. Migala conducted a detailed examination considering who regulates non-navigable airspace and determined "that states have the right to regulate their own low-lying navigable airspace" while "the FAA also has some limited authority to

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[160] 32 C.F.R. § 245.5 (2016) (NAS also includes "air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material.").
[161] Migala *supra* note 156 at 47.
[162] FY2018 *supra* note 130 § 183a.
[163] Migala *supra* note 156 at 55 (Migala quotes the author of the Federal Aviation Act of 1958 "I hope we can tailor this bill to where we will not find it necessary to go into something that is going to be subject to as much controversy as the extension of property rights vertically is.")
[164] Id. at 56.
[165] Id. at 59.
[166] Id. at 62.

regulate the same space" when activities in the non-navigable affect the navigable airspace.[167] This definition also allows the past permits denied by the FAA.[168] Additionally, it implies that both the federal and state government can regulate the airspace area affected by SB 277.

1. Texas and Drone Laws

The Texas Legislature addressed another developing technology that utilizes non-navigable airspace: drones.[169] Wind farms and drones incite similar public opposition,[170] require lawmakers to reconsider airspace rights, and equally overwhelm the FAA.[171] Texas created its first legislation regulating drones in 2013;[172] the laws restrict where drones can fly,[173] prevents local regulation of drones,[174] and restricts the use of drones to protect privacy[175] while the FAA did not enact its drone laws until 2016.[176] Similar to the interaction between FY2018 and SB 277, state drone laws and the FAA's could clash. Drones and wind farms also relate because

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[167] Id. at 78 (Migala sites the Air Commerce Act of 1926, 27 Col. L. Rev. 989, 990 (1927) "The federal government may regulate intrastate commerce where such regulation is incidental to the control of interstate commerce. But jurisdiction over those matters on which the federal act is silent must remain vested in the states.").

[168] 49 USCS § 40103(b)(1) (This section says, "The Federal Aviation Administration shall develop plans and policy for…the efficient use of airspace." Arguably denying wind farm permits when other solutions exist, like replacing old radar equipment, is not very efficient.).

[169] Tex. Code §§ 423.001-423.009.

[170] *See infra* notes 201-210 and accompanying text (regarding wind opposition), *see* Migala *supra* note 156 at 7 ("When U.S. Senator Rand Paul...in January 2015 threatened to shoot down any drone over his house, he was not the first person to believe that his property rights extended to the air above his home.")

[171] Migala *supra* note 156 at 7. ("As of July 2016, and going back several years, the FAA has only fined a total of twenty-four people or companies for illegal drone flights." Despite "millions of drones sold, the FAA only has about 1500 enforcement personal, most of whom are dedicated to commercial aircraft maintenance inspections.")

[172] Tex. Gov't. Code § 423.001.

[173] Tex. Gov't Code Ann. §§ 411.062, 411.065 (restrictions over state Capitol Complex); Tex. Gov't Code Ann. § 423.0046 (restrictions over sports venues).

[174] Tex. Gov't Code Ann. § 423.009

[175] Tex. Gov't. Code § 423.001-423.008.

[176] Migala *supra* note 156 at 10 (Migala summarizes the new regulations this way: "as requiring civil operators to earn a new specialized remote pilot certificate; operate only in good weather conditions and certain distances away from clouds; not operate at night; remain clear of airports and their airspace; maintain visual line of sight with the drone; not fly directly over persons; and remain within 400 feet above ground level or within a 400-foot radius of a structure.")

commercial-grade drones can inspect wind turbines.[177] Before the FAA released new rules in 2016, it outlawed this practice without obtaining a Section 333 Exemption of Airworthiness and a Certificate of Authorization.[178] Now, an operator may fly commercial drones weighing less than 55 pounds during the daytime up to 400 feet in the air or within 400 feet of a structure.[179] However, unlike SB 277, Texas' drone legislation clarified the use of drones and used different methods than the FAA. Since Texas legislators willingly defined property rights in the non-navigable airspace for drones, why did they not do the same for wind rights?

B. Airspace Ownership

SB 277 and the FAA's actions[180] highlight uncertainties in airspace ownership. Texas does not have a particular statute affirming airspace rights despite twenty-two other states having this kind of legislation.[181] Instead, Texas asserts non-navigable airspace as a part of the surface estate through case law.[182] Texas further confirmed private property rights in the non-navigable airspace when creating drone laws to protect privacy.[183] Texas legislation promoted wind for the sake of Texans, turning down specific gridline plans because they would raise electric bills in Texas.[184] Therefore, wind legislation should mimic drone laws and preserve airspace rights. The following section outlines how laws define similar airspace property.

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[177] Michelle Froese, *Drones could play a bigger role at wind farms*, WINDPOWER ENGINEERING & DEVELOPMENT (Sept. 12 2016), http://www.windpowerengineering.com/maintenance/drones-play-bigger-role-wind-farms/.
[178] Dave Peachey, *How FAA Rules Effect Wind Farm O&M*, UPWIND SOLUTIONS (Mar. 9 2015), http://www.upwindsolutions.com/blog/how-faa-rules-effect-wind-farm-om.
[179] 80 Fed. Reg. 9544.
[180] *Supra* notes 116-129 and accompanying text.
[181] Migala *supra* note 156 at 62.
[182] Schronk v. Gilliam, 1964 Tex. App. LEXIS 2638 ("Absent legislation… the landowner's exclusive dominion extends at least to the altitude of the owner's existing and effective reasonable use of the land.").
[183] Tex. Gov't Code §§ 423.001-423.003 ("A person commits an offense if the person uses an unmanned aircraft to capture an image of an individual or privately owned real property in this state with the intent to conduct surveillance on the individual or property captured in the image. 'Image' means any capturing of sound waves, thermal, infrared, ultraviolet, visible light, or other electromagnetic waves, odor, or other conditions existing on or about real property in this state or an individual located on that property.).
[184] Staine *supra* note 32.

1. Private Property Occupying Airspace

Property in airspace first stems from the common law rule: "[to] whomsoever the soil belongs, he owns also the sky."[185] Common law was the only law allocating airspace until airplanes required a portion of the sky to become a "public highway."[186] The 1940s United States v. Causby case illustrates how legislation can achieve a balance between private property rights and regulating new technologies. The plaintiffs worked as farmers and had a chicken barn near a municipal airport.[187] The landowners became accustomed to commercial flyovers but began having problems when the military leased the airport.[188] The bomber and fighter planes frequently flew over the plaintiffs land in such proximity that "six to ten" chickens died a day from fear.[189] The plaintiffs sued the military to recover damages and for taking their property within the meaning of the Fifth Amendment.[190] The court built off of the common law rule to accommodate air travel by defining landowner's rights as "at least or as much of the space above the ground as he can occupy or use within connection of the land" while allocating navigable airspace as a "public highway." [191] Airplanes required transferring a portion of the airspace from private to public because threats of trespass and easements would complicate plane routes.[192] This law allows landowners to use wind turbines below 500 feet as a source of energy. Air travel increased the social value of the sky so much so that states could no longer justify private property interests.[193] Wind energy also has high social value because it could solve pervasive problems such as climate change.[194] For this reason, Texas cannot allow easements that prevent wind farms to preserve scenic views.

Airspace evolved once again when urban property grew upward. Ownership in condominiums and high-rise apartments became uncertain when some courts said one must own the surface to own the airspace.[195]

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[185] Rule *supra* note 117.
[186] United States v. Causby, 328 U.S. 256, 66 S. Ct. 1062, 90 L. Ed. 1206, 1946 U.S. LEXIS 3008 (1946).
[187] Unites States v. Causby *supra* note 186 at 258 (The barn was 2,200 feet from the runway).
[188] Id. at 270.
[189] Id. at 259 (The planes flew so close they knocked leaves off of trees on the land.).
[190] Id. at 258.
[191] Id. at 264.
[192] Id. at 259.
[193] Rule *supra* note 119 at 280.
[194] *Climate Change in Texas supra* note 1.
[195] Rule *supra* note 119 at 283.

The condominium law solved this issue in the 1960s by stating one could own the airspace occupied by their unit.[196] The effect of this law allows "the subdivision and transfer of exclusive rights in airspace" separate from the surface.[197] This rule allows a severable interest in wind.

2. Private Property Flowing through Airspace

Radio waves transformed a public interest to private when interference conflicts arose. The Federal Communications Commission (FCC) attempted to solve the problem with a licensing system, but that became too complicated when the FCC had to "approve all sales of existing frequency licenses" and by the 1990s the FCC "auctioned off several frequency rights to private properties."[198] Now the radio mostly consists of private property.[199] Similar to radio waves, wind flows through the airspace and a federal body has trouble regulating interferences. Creating private property rights in public resources occurs when a resource becomes so valuable that it "will be overexploited unless someone holds exclusionary rights in it."[200] Wind captured as energy has become increasingly valuable,[201] so assigning private property interests may be necessary to prevent waste.

C. Technology Changed Airspace

The increasing use of airspace technology requires updated laws to clarify ownership. Texas' determination that airspace rights belong to the surface owner no longer applies if SB 277 will prevent the use of specified airspace. Additionally, surface owners having rights to non-navigable airspace does not make sense because the DoD did not compensate them for valuable airspace. The previous section regarding airspace ownership illustrates how the common law adapted to new technologies, including rules that apply to wind energy. United v. Causby would allow wind energy development because the turbines capture wind energy while remaining attached to the surface. Condominium laws would allow a severable interest in wind because they state one does not have to own the surface to own the

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[196] Id.
[197] Id.
[198] Id.
[199] Id. (The licensing system was enacted by statute in 1927 and 1934 while it didn't become a private property interest until 1994.).
[200] Rule *supra* note 117 at 815.
[201] David Roberts, *These huge new wind turbines are a marvel. They're also the future*., VOX MEDIA (Mar. 8 2018), https://www.vox.com/energy-and-environment/2018/3/8/17084158/wind-turbine-power-energy-blades.

airspace. Lastly, the transition of radio waves from public to private property shows that wind can make the same transition because it flows through the airspace in a similar fashion. The previous discussion also determined that states control non-navigable airspace. For these reasons, Texas cannot only rely on the current definition of airspace rights to allow wind rights.

IV. WIND ENERGY MISCONCEPTIONS

Texas' decision to promote wind energy through a $7 billion project starkly contrasts SB 277. Additionally, the federal government presents conflicting opinions by promoting wind energy in FY2018 while almost removing the production tax credit in the 2017 tax credit reform. Both Texas[202]and Federal[203] law have elements grounded in poor reasoning and present combative attitudes, illustrating they misunderstand wind as a resource. This section addresses wrong interpretations of the industry that prevent effective legislation.

A. Location, Location, Location

Wind differs from other resources because it is location specific[204] and cannot be easily transported or captured.[205] Surface owners can divert or move water, animals, and minerals on neighboring properties for productive use whereas "winds speeds are influenced by topography."[206] Essentially, location heavily influences the amount of wind energy generated.[207] This unique trait means that preventing the construction of wind farms in certain areas due to aesthetic opposition, radar interference, or wildlife concerns impedes utilizing the wind potential of that particular topography. Early in the Texas wind industry, developers had to rely on the location of

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[202] *Supra* notes 104-114 and accompanying text (Texas showed a lack of knowledge of how wind energy works by implementing a one size fits a rule for a problem that depends on topography.).
[203] *Supra* notes 76-82 and accompanying text (Their reasoning to remove the production tax credit was so that wind energy can stand on its own, yet they do not understand that it is a new technology that will require time to adapt.).
[204] *See* Lopez *supra* note 55 at 5 (This source explains criterion for an onshore and offshore wind resource such as wind speed, height above surface capacity factor, etc.).
[205] TROY A. RULE, SOLAR, WIND AND LAND: CONFLICTS IN RENEWABLE ENERGY DEVELOPMENT (2014).
[206] Id. ("If one million barrels of oil reside in a large subsurface pool, then ultimately about one million barrels will be extracted…the amount of wind energy generated from a given set of properties is often based on where upon those properties wind turbines are installed.").
[207] Id.

transmission lines to place turbines. Since CREZ, developers now place equipment based on avoiding surface conflicts instead of pursuing the areas with the highest wind potential. The Nature Conservancy went as far as to map out "low-risk" wind development areas in parts of Texas so "developers, utilities, and others involved in wind energy can facilitate development…while avoiding lawsuits, project delays, bad public relations, and association with ecologically unsustainable facilities."[208] Developers now use avoiding surface and airspace rivalries as the primary criterion for installing wind equipment, contradicting the point of CREZ to grow wind energy in the areas with the most wind potential and SB 277 complicates this situation instead of solving it.

B. Clean and Renewable Resource Misnomers

The wind industry has an undeniable association with climate change and the "green revolution."[209] As a result, the public judges the industry much more than others. For example, one Hill Country resident reacted to CREZ line installations on her land with this comment: "[They] try to portray themselves as part of the green revolution…but when you see where the wind turbines have lined a ridge top, they obliterate the landscape."[210] The landowner's opinion shows how the public despises wind energy not only because the equipment mars views, but because they think its purpose is to preserve views. The words "green revolution" connote green space or natural landscapes, which turbine installation changes. This perspective seems odd considering pump jacks and drilling equipment litter Texas' landscape.[211] However, because the public does not connect drilling minerals to saving the environment, they have more tolerance for the look of the equipment.[212] Complaints about wind, in addition to aesthetic

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[208] *Wind Energy and Wildlife: Site it Right, CENTRAL GREAT PLAINS GRASSLANDS INITIATIVE*, THE NATURE CONSERVATORY (2016) https://www.nature.org/ourinitiatives/regions/northamerica/areas/greatplains/conservation-priorities/eco-friendly-energy.xml [hereinafter *Wind Energy and Wildlife*].

[209] John Vidal, *Wind power to drive green revolution*, The Guardian (20 Jun. 2008) https://www.theguardian.com/environment/2008/jun/21/renewableenergy.carbonemissions3.

[210] McCammon *supra* note 64 at 1266.

[211] *See generally* Cullen M. "Mike" Godfrey, *A Brief History of the Oil and Gas Practice in Texas*, 68 TEX. B. J. 815 (Oct. 2005).

[212] PASQUALETTI *supra* note 50 at 178 (a survey conducted says that only 9% find wind as an unacceptable resource while 25% find fossil fuels and 50% find nuclear unacceptable yet wind has the strongest not in my backyard response).

opposition, include surface damage such as erosion and avian deaths.[213] Wind energy equipment inflicts much less damage than the drilling required for mineral extraction, not to mention having to remove an oil derrick and fill in a well.[214] Oil spills or pollution resulting from the use and extraction of oil and gas can also harm wildlife.[215] Wind energy avian deaths may have a more substantial short-term impact than oil and gas equipment, but over one hundred years oil and gas will contribute to more habitat loss than wind energy.[216] The oil and gas industry does more harm to the environment but because it has a reputation as a dirty resource its equipment does not inspire Not in my Backyard (NIMBY) attitudes. The name NIMBY stems from the public overall approving of wind energy as a clean resource until turbines appear near their home.[217] While Texas can benefit from wind being a clean resource, the Legislature's decisions to promote it have been economic.[218] Aesthetic opposition may subside if Texas lawmakers emphasize how wind is a less expensive resource that makes landowners money through leases, instead of advocating for wind as a "green resource."

Wind energy is a renewable resource and therefore has the connotation that it does not need to become a property interest to prevent waste. However, wind turbine wake, overloaded transmission lines, and opportunity costs waste wind. Due to rapid development in Texas, sometimes wind blows without the turbines turning.[219] South Dakota prevents wind waste by requiring any turbine installation over 5 MW give notice to its Public Utilities Council.[220] Improper spacing of "commercial wind turbines create a 'wake' of turbulent" flow that affects downwind neighbors for nearly half a mile. [221] Unnecessary siting rules, neighbor conflicts, conflicting surface uses, and aesthetic issues all waste wind in the

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[213]Id. at 22.
[214] Michael J. Stephan, *Wind Severance*, 40 TEX. ENVTL. L.J. 73 (2010).
[215] *Threats: Oil and Gas Development*, WORLD WILDLIFE FUND (2018) https://www.worldwildlife.org/threats/oil-and-gas-development.
[216] Urs Dieterich, *Wind, oil and gas-categorizing the ecological footprint of energy sprawl*, YALE ENVIRONMENT REVIEW (22 Sept. 2014) https://environment-review.yale.edu/wind-oil-and-gas-categorizing-ecological-footprint-energy-sprawl-0.
[217] PASQUALETTI *supra* note 50 at 22.
[218] *See supra* notes 14-15, 146-152 and accompanying text.
[219] *See* David Grossman, *Texas Is Drowning in Wind Energy*, POPULAR MECHANICS (Aug. 8 2016) http://www.popularmechanics.com/technology/infrastructure/a22228/texas-is-drowning-in-wind-energy/.
[220] Saathoff *supra* note 16 at 213.
[221] RULE *supra* note 205.

form of opportunity cost. The following section compares waste in the developing Texas wind industry to that of the early oil and gas industry.[222]

V. WHY HAS TEXAS NOT DEFINED A PROPERTY INTEREST IN WIND?

"Hundreds and perhaps thousands" of wind leases have been written in Texas while the status of wind as a property interest remains unknown.[223] Case law already identified other instances of airspace property,[224] yet wind does not have any property laws. Does wind belong to the state or private landowners? Is wind a natural resource? Is wind an interest of outright development or through easements? Can wind be severed from the surface? Rebecca Saathoff contends that "regulating before these questions are answered is a monumental, and potentially disastrous undertaking."[225] She explains that regulating a defined property interest makes more sense than creating a property interest from regulations.[226] Additionally, case law could define the resource in such a way that it contradicts the rules later on.[227] Texas did precisely the opposite of what Saathoff recommends and if one were to define wind from SB 277 one might think the state owns wind because it prevents construction in private airspace due to conflicts with a government entity. Wind as a state interest does not match Texas' focus on individual property laws,[228] and therefore Texas made a mistake by enacting legislation before defining wind property rights. The following section explains how Texas regulates similar property interests.

A. Wild Animal Laws

Wind and wild animals have the similarities of being unpredictable and moving freely among property lines. The definition of airspace ownership changes when using this template because the state owns wild animals until captured by landowners,[229] meaning that no one has a property interest in wild animals until captured, even if one's land has a high propensity to attract animals. This concept would translate to wind such that one would

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[222] *Infra* notes 257-263 and accompanying text.
[223] Saathoff *supra* note 16 at 204.
[224] *Supra* section III.B.
[225] Saathoff *supra* note 16 at 204.
[226] Id.
[227] Id.
[228] Smith, Diffen *supra* note 18 at 175.
[229] Tex. Parks & Wildlife Code An. § 1.011(a) ("all wild animals, fur-bearing animals, wild birds, and wild fowl inside the borders of this state are the property of the people of the state.").

not own the wind until one installs turbines and captures energy, even if one's land has high wind potential. The ability to develop wind would derive solely from easement, similar to how profits a prendre allow hunting.[230] Following this analogy, the wind easement grantee would have cause of action against any neighboring landowner who intentionally interferes with the flow of wind because Texas prohibits intentional interference in lawful hunting.[231] However, landowners would have to take careful precautions to prevent upwind disruptions because Texas law allows hunting just along the borders of a lease.[232] Therefore, someone downwind of the property could lawfully install turbines along the property line and capture the wind just before it reaches the other turbines.[233] Lastly, since the surface owner does not have a right to the wind until captured, this body of law would not allow severance in fee.

This model mimics Texas' current wind environment because all development derives from leases and easements, it provides few remedies for neighbor conflicts, and it does not consider wind potential. Additionally, it confirms what SB 277 implies and allows the state to own wind. It also allows the FAA's actions of preventing surface owners to construct wind farms without compensation because one does not have a right to the wind until the installation of turbines.

B. Groundwater and Oil and Gas Laws

Groundwater and oil and gas have similarities to wind: developers must capture them for use, the ability to possess them stems from the common law rule that the surface owner owns "the sky and to the depths," and extracting them can deplete resources of adjacent lands.[234] Texas has an uncommon approach to recognizing these resources because they allow the rule of capture for both and prevent waste through regulatory bodies.[235] A brief examination of its history with both shows that Texas has the potential to create a property interest in wind and illustrates Texas' emphasis on private property.

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[230] 1-4 Wind Law § 4.02 (2017).
[231] Id.
[232] Id.
[233] Id.
[234] Id.
[235] *Infra* notes 247-256,264-270 and accompanying text.

1. Groundwater

Texas is the only state that still allows the rule of capture for groundwater.[236] The rule of capture maintains that landowners can pump as much water as they please from under their land (even if they are using their neighbor's water) unless they do so wastefully or with malice intent.[237] Texas adopted the common law rule in 1904 over the rule of reasonable use based on the case Houston & Texas Central Railway Co. v. East. The rule of capture came from the 1843 case of Acton v. Blundell. The court based its decision on two ideas: (1) groundwater itself was too mysterious to govern and (2) that regulating the resource would halt "general progress of improvement."[238]

The case of Sipriano v. Great Spring Waters of America gave Texas courts another opportunity to revisit the rule of capture in 1999. In this case, the water bottle company Ozarka had been pumping 90,000 gallons of groundwater per day, seven days a week, from the landowner's (Sipriano) wells.[239] However, instead of changing to the rule of reasonable use, the court decided to continue regulating the interest through groundwater conservation districts. The court made this decision and deferred any changes in the law to the Legislature based on section 59 article 16 of the Texas Constitution that states, "Legislature shall pass all such laws" for "the preservation and conservation of all such natural resources of the State."[240]

The Texas Legislature first implemented groundwater conservation districts in 1942, yet at the time of this case, only forty-two districts existed. Justice Hecht points out that the rule of capture goes against the ideology behind conservation districts and the court would be honoring the Legislature's "preferred method of groundwater management" by changing the rule.[241] The disconnect between the court's decision and legislature's goal heeds Saathoff's warning and serves as a cautionary tale for the wind industry's interaction with SB 277 and following court decisions. It also does not make sense to uphold the rule of capture based on the outdated reasoning used in Acton v. Blundell. As Justice Hecht mentions, Texas has successfully regulated oil and gas, another underground substance, without impeding progress.

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[236] Sipriano v. Great Spring Waters of Am., Inc., 1 S.W.3d 75, 1999 Tex. LEXIS 49, 42 Tex. Sup. J. 629 (1999).
[237] Id.
[238] 152 Eng. Rep. 1223, 1235 (Ex. Ch. 1843), *quoted in East*, 81 S.W. at 280.
[239] Sipriano v. Great Spring Waters of Am. *supra* note 236.
[240] Id.
[241] Id.

The reasoning given during the *Acton* case mirrors how Texas has approached the wind industry thus far. Texas' decision to not regulate wind seems similar to the excuse given in *Acton* that groundwater was too mysterious to govern properly. Some believe "wind in and of itself does not appear to be susceptible of any ownership" because it is unlike "oil and gas in place."[242] Several wind leases in Texas use phrasing such as "wind in place"[243] because various plots of land have different wind potentials, this wording implies one can reduce wind to possession.[244] Texas has not regulated wind in fear of losing developer's interest,[245] which parallels the outdated thinking employed in *Acton*. Developers also lose interest when uncertainties in the law exist; for example, whether Texas courts will recognize a severable wind interest.[246] Lastly, Texas should not rely on the courts to clear up misnomers about the property interest in wind since the court in *Sipriano* wants lawmakers to regulate natural resources.

a. Solution: Groundwater Conservation Districts

Texas regulates groundwater through Groundwater Conservation Districts (GCDs) as opposed to appointing a regulatory body or using the rule of reasonable use.[247] Currently, Texas has ninety-eight GCDs.[248] Landowners or local legislators file a petition signed by a majority of the surrounding landowners to create or join an adjacent conservation district with Texas Commission on Environmental Quality (TCEQ).[249] TCEQ only intervenes to create a district when the Legislature considers an area a Priority Groundwater Management Area (PGMA).[250] Texas Water Code defines PGMAs as areas expected to experience (within a 50 year period)

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[242] Lisa Chavarria, *Wind Power Prospective Issues*, 68 TEX. B.J. 834 (2005).
[243] 1-4 Wind Law *supra* note 230.
[244] *See Wind Resource Assessment Handbook: Fundamentals for Conducting a Successful Monitoring Program*, AWS SCIENTIFIC, INC., at 3-4 to 4-1 (1997). ("Numerous factors, including average wind speed, wind direction frequency, air temperature, the availability of adequate transmission facilities, permitting issues, and ease of vehicular access can affect a property's attractiveness for wind energy development.").
[245] *Supra* notes 60-68 and accompanying text.
[246] Rule *supra* note 117 at 812.
[247] Tex. Water Code Ann. § 36.0015.
[248] *Groundwater Conservation District Facts*, TEXAS WATER DEVELOPMENT BOARD, HTTP://WWW.TWDB.TEXAS.GOV/GROUNDWATER/CONSERVATION_DISTRICTS/FACTS.ASP.
[249] Tex. Water Code §§ 36.012-.015.
[250] Chris Lehman, *Hung Out to Dry?: Groundwater Conservation Districts and the Continuing Battle to Save Texas's Most Precious Resource*, 35 TEX. TECH L. REV. 101 (2004).

"critical problems" such as shortages, subsidence, and contamination.[251] Once designated a PGMA, citizens must join or create a GCD within two years.[252] The petition for creation must contain names of temporary directors until a majority vote of local landowners creates the district.[253] The district maintains itself with a maintenance tax.[254]

TCEQ regulates the spacing of water wells and the production of groundwater to prevent adverse effects such as "drawdown of the water table or the reduction of artesian pressure, subsidence, interference between wells, degradation of water quality, [and] waste in GCDs."[255] Texas Water Development Board (TWDB) has "inventoried…nearly 140,000 water wells" into its database and has created "one of the most comprehensive statewide groundwater databases in the entire United States."[256] Texas' approach to groundwater serves as a model for preventing waste if local regulations make the most sense for wind energy.

2. Oil and Gas

Analyzing the development of Texas' oil and gas law shows that it knows how to control a growing energy industry. The oil and gas industry and the wind industry are similar because both have expensive equipment that sits on the surface, can reduce adjacent landowners' resources, and are mostly used to provide energy.[257] Additionally, several wind leases are modeled after oil and gas contracts and even make wind a severable interest.[258] Minerals were unregulated in its infancy like wind and are subject to the rule of capture in Texas.[259] A lack of regulation resulted in waste of the resource because Texans tried to drill as quickly as possible before their neighbors gained possession.[260] These actions led to "depleted pressure in oilfields" which led to a "dramatic reduction in amount of oil produced."[261] The lack of pipeline infrastructure to transport the resource

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[251] Tex. Water Code § 35.007
[252] Lehman *supra* note 250 at 109.
[253] Tex. Water Code § 36.0151.
[254] Lehman *supra* note 250 at 116.
[255] Tex. Water Code Ann. § 36.116.
[256] *Groundwater Data*, TEXAS WATER DEVELOPMENT BOARD, http://www.twdb.texas.gov/groundwater/data/index.asp.
[257] RULE *supra* note 205.
[258] Alan J. Alexander, *The Texas Wind Estate: Wind as a Natural Resource and a Severable Property Interest,* 44 U. MICH. J.L. REFORM 433 (2011).
[259] Id. at 434.
[260] Id.
[261] Id. at 448.

also wasted oil,[262] similar to how transmission lines fell behind to the rate of wind farm construction before CREZ.[263]

a. Solution: Railroad Commission

Texas remedied waste in the oil and gas industry by requiring the Texas Railroad Commission (RCC) to regulate the industry in 1919, shortly after Texans discovered the first oil field in 1900.[264] The Legislature chose the RCC because it was the most organized agency at the time. Over the period of about one hundred years the commission created the "best-developed body of oil and gas law…in the world."[265] In fact, OPEC based its oil cartel on the RCC.[266] Unlike local GCDs, the RCC serves as a statewide authority to "make and enforce rules and orders for the conservation of oil and gas and prevention of waste."[267] The RCC performs similar tasks as the GCD (which wells may be drilled, how much oil and gas can be produced, and spacing rules)[268] while protecting correlative rights.[269] Correlative rights ensure "that each landowner should be afforded the opportunity to produce his fair share of the recoverable oil and gas beneath his land."[270] The RCC has more authority than TCEQ because every well drilled must adhere to these protocols whereas only conservation zones adhere to GCD rules. How Texas regulates oil and gas serves as a model to prevent waste if statewide regulation makes more sense for wind energy.

C. Wind and the Rule of Capture

Texas property law reacted to waste by creating regulatory systems instead of changing the method of acquisition of minerals and groundwater. Maintaining the rule of capture emphasizes Texas' interest in allowing the market and landowners to allocate resources freely. These values echo how Texas grew its wind industry through a lack of regulation. Groundwater law represents how Texas defines a clean resource while oil and gas law shows

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[262] Id. at 435.
[263] Staine *supra* note 32.
[264] Id.
[265] Godfrey *supra* note 211.
[266]Id. at 813.
[267] Tex. Nat. Res. Code § 85.201.
[268] 56 Tex. Jur. 3d Oil and Gas § 737.
[269]Amy Hardberger, *World's Worst Game of Telephone: Attempting to Understand the Conversation Between Texas's Legislature and Courts on Groundwater*, 43 TEX. ENVTL. L.J. 257 (2013).
[270] Id. at 298.

how it controls an energy resource, two elements that make up the wind industry. The rule of capture would allow outright development, surface owners to have a private property interest, and severance in fee for wind. For these reasons, allowing wind ownership subject to the rule of capture makes the most sense for Texas. A crucial first step for the wind industry is to define the property interest in wind. However, recognizing wind ownership with the rule of capture requires some regulation. Therefore, wind must become a natural resource because, as seen in *Sipriano*, the courts will not provide much assistance for waste. Codifying wind as a natural resource would allow the Texas Legislature to enact legislation controlling the industry.[271]

VI. ISSUES PREVENTING WIND ENERGY GROWTH

In addition to regulating an undefined property interest and addressing an issue already handled by the federal government, SB 277 missed the mark as Texas' first wind energy regulation because more pertinent concerns exist. Problems regarding wildlife, aesthetics, the severability of wind, and surface conflicts resulted in litigation, while radar interference has not.

A. Wildlife Concerns

Texas does not require Texas Parks and Wildlife to evaluate wind farms for environmental impacts,[272] so concerned citizens use the court system to voice their opinions. In 2008, the Audubon Society and the King Ranch formed the Coastal Habitat Alliance in response to wind farm construction in Kennedy County, Texas near the Laguna Madre.[273] This particular area has "three major migratory-bird pathways," so the alliance intended to protect the "Laguna Madre and its associated environmental resources."[274] The alliance sued project developers (Texas Gulf Wind and Iberdrola Renewables), the Commissioner of Texas General Land Office, and the Commissioner of the PUCT based on the Coastal Zone Management Act (CZMA). However, the CZMA does not "create a private right of action" that the alliance could use to sue defendants, so the court granted a motion

[271] Tex. Const. Art. XVI § 59.
[272] *Supra* notes 64-67 and accompanying text (Instead it has voluntary guidelines a developer may use.).
[273] Coastal Habitat Alliance v. Patterson, 601 F. Supp. 2d 870, 2008 U.S. Dist. LEXIS 107943.
[274] Id.

to dismiss the case.[275] This case illustrates how a lack of wildlife input persuades citizens to sue developers and delay projects.

B. "Not in My Backyard" and Aesthetics

"Not in my backyard" (NIMBY) attitudes appear in court and through refusals to have wind energy equipment installed. Landowners living near Horse Hollow Wind Farm in Taylor County, Texas sought an injunction based on private and public nuisance.[276] The plaintiffs complained that the turbines ruined their view, decreased their property value, were noisy, and had annoying blinking lights.[277] The trial court found for defendants because the nuisance claim was only aesthetic. The Eastland Court of Appeals upheld this decision, saying that the plaintiffs based their nuisance claim on an emotional response to how the turbines changed their landscape and therefore did not have a sufficient claim for nuisance.[278] Despite the court ruling in favor of FPL energy, the suit began in 2005 and did not end until 2008, wasting considerable time and money. Similar cases occurred two other times in Texas with the same result.[279] Since Texas courts determined that aesthetic issues cannot be a basis for nuisance, citizens will likely sue using other causes of action (e.g., permits, wildlife) or they could go as far as creating negative easements to prevent wind farm construction. A section of the Texas Natural Resource code still allows a conservation easement designed to protect scenic values.[280] Citizens may also show their opposition by petitioning local tax abatements, most likely stopping the project altogether.[281]

C. Wind as a Severable Interest

Wind is separate from the airspace because it is not constantly present, instead airspace serves as medium through which wind flows. It also "has a distinct value like minerals," so should Texas allow surface owners to sever wind? California was the first court system to approach this topic when a water district gained fee interest in a property with wind turbines.[282] The

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[275] Id.
[276] Rankin v. FPL Energy, LLC, 266 S.W.3d 506, 508.
[277] Id.
[278] Id. ("Under the laws of the State of Texas, a condition that causes aesthetic changes to the view, scenery, landscape, or beauty of an area is not a nuisance.").
[279] Black v. Gamesa Wind US, LLC et al., Cause No. 06-0129, O'Dell v. FPL Energy, Cause No. 06-502.
[280] Tex. Nat. Res. Code § 183.001.
[281] McCammon *supra* note 64.
[282] Contra Costa Water Dist. v. Vaquero Farms, Inc., 58 Cal. App. 4th 893.

water district wanted to sever the wind rights and allow the farmers to keep them, but Vaquero farms instead wanted compensation for lost wind rights.[283] The court held that "one may have a right to use wind power rights without owning any interest in the land" and allowed the severance.[284] In 2009, a New Mexico court did not allow tenants in common to sever wind rights because turbines had not been installed on the land.[285] The court reasoned that one could not sever wind like minerals because one cannot reduce it to possession.[286] These holdings seem different, but the California court allowed severance for already installed turbines.[287] However, California's court affirmed similarities between mineral and wind energy development: "[t]he right to generate electricity from windmills harnessing the wind, and the right to sell the power so generated, is no different, either in law or common sense, from the right to pump and sell subsurface oil, or subsurface natural gas by means of wells and pumps."[288] Vaquero argued that one cannot use wind rights without using the surface, but the court disagreed: "[T]he argument that harvesting windpower somehow requires greater usage of the surface than harvesting oil and gas resources defies common sense to anyone who has seen a field of oil derricks."[289] Since both courts produced different results, Texas cannot rely on the court system to uphold wind severances and should clarify through laws if it allows wind severability as it does for minerals.

D. Conflicting Surface Uses

Texas may currently rely on self-regulation for the wind industry because it has more land than most states.[290] However, this reasoning falls short when one considers all the potential surface conflicts: oil and gas leases, military bases, hunting, and agriculture. The accommodation doctrine serves as the only law that addresses these disagreements. It states that if a new use of the surface inhibits a preexisting surface use and a reasonable alternative exists that does not negatively affect the preexisting

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[283] Id.
[284] Id.
[285] Romero v. Bernell, 603 F. Supp. 2d 1335.
[286] Id.
[287] Contra Costa Water Dist. v. Vaquero Farms *supra* note 336 ("wind is never embedded in the real estate; rather it is more like water or wild animals which traverse the surface and which do not belong to the fee owner until reduced to possession" (i.e., once wind is turned to energy by installing turbines)).
[288] Id.
[289] Id.
[290] *Size of States supra* note 154.

use, it must be changed.[291] This rule provides some leeway so wind leases and mineral leases can coexist on the surface; however, the wind lease must be located on the surface before the mineral estate.[292]

The accommodation doctrine alone does not sufficiently combat surface issues because mineral and wind lease conflicts already appeared in Texas courts. In 2009, an oil and gas lessee sued a wind lessee for trespass and breach of contract when the wind farm construction "intentionally interfered with the oil and gas lease."[293] The plaintiffs also sued the wind lessee for negligence and gross negligence because they had a duty to search the title for conflicts and did not.[294] The plaintiffs also sued the landowners (Glory Ranch) for negligence saying they had duties to protect their mineral interests and "refrain from granting legal interest which were in excess of what it had the legal right to grant" since Glory Ranch had actual and constructive knowledge of the mineral interest.[295] Ultimately, the landowners settled in 2010 and dismissed the lawsuit because clauses existed in the contract that the wind lease was subject to the mineral lease.[296] This case shows how mineral leases currently serve as the dominant estate in Texas despite the fact that wind leases generate more income for surface owners than mineral, hunting or agricultural leases in some areas of the state (especially the Panhandle and West Texas).[297] Oil and gas is a massive industry in Texas, and therefore lawmakers may be afraid to endorse wind as a competing energy source through legislation.[298] Permitting and siting laws for the wind industry could help both trades at the same time. For example, permitting could require wind developers to warn oil and gas companies before they build turbines.[299]

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[291] Getty Oil Co. v. Jones, 470 S.W.2d 618, 1971 Tex. LEXIS 268, 14 Tex. Sup. J. 372, 53 A.L.R.3d 1, 39 Oil & Gas Rep. 657 (1971).
[292] Id.
[293] Cordele Development Corporation v. Cedro Hill Wind LLC, et al., Cause No. 2010CVQ-000649-D1, in the District Court of Webb County, Texas, 49th Judicial District (2009-2010).
[294] Id.
[295] Id.
[296] Id.
[297] Ernest E. Smith, *The Growing Demand for Oil and Gas and the Potential Impact Upon Rural Land*, 4 TEX. J. OIL GAS & ENERGY L. 1 (2008).
[298] Saathoff *supra* note 16 at 216.
[299] Id.

VII. EFFECTS OF NOT IMPLEMENTING MEANINGFUL LEGISLATION

The issues outlined in the previous section resulted in some states regulating to the point of infringing on private property rights,[300] a trend Texas fell victim to with SB 277. States implemented laws addressing aesthetic opposition, upwind/downwind conflicts, decommissioning, and severable interests in hopes to avoid litigation, but instead they prevent industry growth, inefficiently use resources, and challenge property interests.

A. Approaches to Aesthetic Opposition

1. Texas' Solution: Eminent Domain

Once Texas overcame the transmission problem with wind energy, it faced another problem: local landowners did not want CREZ installations on their land.[301] Texas addressed this problem by giving eminent domain authority to utility companies building CREZ lines.[302] Similar to how the FAA unfairly prevented wind projects from being built near military installations,[303] Texas allowed utility companies to take advantage of private property rights.[304] Texas' eminent domain laws became more liberal after the 2005 decision of Kelo v. City of New London because this case expanded the definition "for what constitutes a 'taking' for public use."[305] It allowed an "economic development" to satisfy "the public use requirement so long as the public benefitted from it at some point in the future."[306] This decision worried the Texas Legislature and it responded with three different bills to lessen the state's power to take private property.[307] The 2011 version of Senate Bill 18 (SB 18) was the only bill enacted; it has a "bona fide offer" provision that requires the condemning authority to make two offers.[308] The authority can only give the final offer once a certified

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[300] Rule *supra* note 119 at 302.
[301] Luck *supra* note 41 at 248 (Kerrville and Hill Country residents have opposed CREZ installations. However, ERCOT saw no other routes to transport west Texas wind to "[South,] Central and East Texas.").
[302] Id. at 249.
[303] *Supra* notes 116-129 and accompanying text.
[304] *See generally* Nicolas Park, *How Much is Fair?: Will Senate Bill 18 Ensure Condemners Pay Just Compensation for Land Taken Due to the CREZ Transmission Lines?*, 44 TEX. TECH L. REV. 1121 (2012).
[305] Id.
[306] Id.
[307] Id. at 1147 (House Bill 2006 and two versions of Senate Bill 18 in 2009 and 2011.).
[308] Id. at 1148.

appraisal occurs and then the landowner has fourteen days to decide on this offer. If a judge believes the authority did not contribute to "meaningful negotiations," they can rule the "bona fide offer" provision was not met and charge fees for the violation.[309] The fees and waiting time provide incentives for authorities to negotiate with landowners to reach a fair decision. Despite these improvements, a majority of Texas landowners advocated for enhancements laid out in Senate Bill 740 (SB 740) which died in committee during the 2017 Legislature.[310] The bill proposed that the condemning entity pay all the attorney fees a property owner acquires during appeal and addresses resulting surface damage by exempting unusable property from taxes.[311] Texas changed eminent domain laws to promote wind energy, but at the same time compromised surface rights. Enhancements laid out in SB 740 could ensure the promotion of wind rights while maintaining other property rights.

2. Other States: Local Regulation

Iowa, California, Kansas, and Illinois surprisingly turned to local laws to fight NIMBY attitudes.[312] Gordon Brittan Jr. suggests local regulation and smaller wind installations to foster an "organic" connection between wind farms and citizens.[313] He bases this theory on Aldo Leopold's philosophy that the human race considers landscapes beautiful because of their "long evolutionary history."[314] Therefore, most people consider wind turbines ugly because they do not blend in with the landscape and they do not have a historical connection to them. Local control makes citizens feel involved in the projects because the wind installations represent their choices. Iowa (wind meets almost 30% of its energy demands)[315] successfully applied this theory as shown by its Small Wind Innovation Zone projects based on local regulation.[316] Nevertheless, some counties (Los Angeles, California and Wabaunsee, Kansas) banned wind energy

[309] Id. at 1149.
[310] Lynn Brezosky, *State's cattle raisers pushing for eminent domain reform*, SAN ANTONIO EXPRESS NEWS (Apr. 1 2017) http://www.expressnews.com/news/local/article/State-s-cattle-raisers-pushing-for-eminent-11043982.php.
[311] Id.
[312] Saathoff *supra* note 16.
[313] PASQUALETTI *supra* note 50 at 72.
[314] Id. at 63-67.
[315] Saathoff *supra* note 16 at 206.
[316] Iowa Code § 476.48 (2017).

once given local control.[317] The final section of this paper will discuss how to appease Texas landowners while developing wind energy and whether local laws would address NIMBY attitudes.[318]

B. Upwind/Downwind Neighbor Conflicts

Wind has the rare disadvantage of both occupying and needing free airspace (solar only requires open air), making placement of turbines difficult.[319] In the instance that two adjacent properties intend to build wind farms, the downwind neighbor will be disrupted by the upwind neighbor because "downwind wake effects can extend for a distance of up to ten times a turbine's rotor diameter."[320] Troy A. Rule highlights how this is a no-win scenario: the upwind developer would not install turbines because the downwind developer could sue for nuisance while the downwind developer would not install in fear of lessened productivity.[321] South Dakota, Iowa, and Illinois all have setback requirements based on turbine height to prevent turbine wake between property lines.[322] This solution avoids conflicts but also inefficiently uses land and airspace. Rule illustrates how these rules are ineffective in a hypothetical situation: Parcel U and Parcel D are upwind/downwind neighbors and both want to develop wind energy on their property.[323] If they combined parcels they could have a total of fifteen operating wind turbines, separately one more turbine would fit but only thirteen would be productive, and wake setbacks allow ten productive turbines.[324] Similar to how SB 277 is too restrictive in siting turbines near military installations,[325] one size fits all setbacks do not efficiently use land or airspace.[326]

C. Disallowing Severable Interests

Colorado, North Dakota, South Dakota, Wyoming, Montana, and Nebraska do not allow severable wind estates.[327] These states define wind

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[317] Saathoff *supra* note 16 at 215.
[318] *Infra* section VIII.C.
[319] Rule *supra* note 119 at 290.
[320] Troy A. Rule, *A Downwind View of the Cathedral: Using Rule Four to Allocate Wind Rights*, 46 SAN DIEGO L. REV. 209 (2009).
[321] Id.
[322] Saathoff *supra* note 16.
[323] Rule *supra* note 320.
[324] Id.
[325] *Supra* notes 104-114 and accompanying text.
[326] Rule *supra* note 320.
[327] Saathoff *supra* note 16.

rights as an instance of real property upon the creation of an easement, lease or similar document intended to capture wind for energy.[328] Wyoming's statute explicitly states, "wind energy becomes personalty at the point of conversion into energy."[329] Forbidding severance and only considering wind a property interest upon turbine installation does not account for the wind potential of a particular plot of land. States implemented these laws with the intention of preventing litigation in the future.[330] However, they allowed wind leases written before the statute to maintain severance.[331] As a result, the states allow some severances and disallow others. Many Texas wind leases include severance,[332] so disallowing severance would create more confusion than clarification. Statutes banning severance define the property interest in wind similar to that of wild animals whereas wind acts as a property interest incident to land and requires outright development for landowners. Severance is a tool that landowners and developers can use to promote the growth of wind energy. Therefore, these restrictive rules define wind rights in a way that contradicts Texas' focus on free allocation of resources.

D. Insufficient Decommissioning

Illinois, South Dakota, and North Dakota all have laws that require the decommissioning of turbines.[333] South and North Dakota limit wind projects to fifty years and require submission of a decommissioning plan that must begin within eight months before the end of the turbines useful life, restore the surface, and remove the equipment entirely.[334] Illinois takes the process a step further and demands all permitted wind farms enter "Agricultural Agreements" with the Illinois Department of Agriculture.[335] The agreement instructs developers on how to construct and deconstruct a wind farm to prevent soil erosion and preserve land.[336] Wind turbines have a useful life of approximately twenty years, and other states already

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[328] N.D. Cent. Code 17-04-02 (2017), C.R.S. 38-30.7-103, S.D. Codified Laws § 43-13-16, Wyo. Stat. § 34-27-103, R.R.S. Neb. § 66-909.04, 70-17-404, MCA.
[329] Wyo. Stat. § 34-27-103
[330] Rule *supra* note 117.
[331] 70-17-404 MCA.
[332] Lisa Chavarria, *The Severance of Wind Rights in Texas*, STAHL, BERNAL & DAVIES, LLP.
[333] *See* N.D. Admin. Code 69-09-09-02 (2017), S.D. Codified Laws § 49-41B-35 (2017) and 505 Ill. Comp. Stat. Ann. 147/15 (2017).
[334] *See* N.D Admin. Code 69-09-09-04-05, S.D. Admin. R. 20:10:22:33.01 (2016).
[335] 505 Ill. Comp. Stat. Ann. 147/15 (2017).
[336] Id.

witnessed the effects of lax decommissioning laws.[337] The aforementioned states have statutes requiring developers to submit decommissioning plans.[338] However, these requirements are "naked" because they do not demand financial commitment.[339] Whether through leases (Texas) or statutes, developers only promise to decommission wind turbines fairly and promptly.[340] Texas' wind boom began in 1999, so the useful life of many turbines will end soon. Deconstructing wind farms costs approximately $25,500 per turbine.[341] Since wind developers heavily rely on subsidies for construction,[342] they may not have the appropriate funds for decommissioning.

Texas saw the effect of "naked" decommissioning laws when oil prices dropped in the mid-1980s.[343] Texas law requires operators to plug inactive wells without requiring "the operator to post a bond or other financial surety to cover plugging costs."[344] As a result, developers left the RCC with a bill of over fifty million dollars to plug nearly nine thousand wells across Texas in 1987.[345] RCC attempted to solve this problem by requiring each new permitted well to pay one hundred dollars, but this only acquired $700,000 by 1991.[346] Since then, the RCC "has plugged tens of thousands of abandoned wells,"[347] but as of January 2018, about 1,500 wells remain unplugged that state funds must fix.[348] Aging equipment and removal of the federal tax credit could send the wind industry in a similar spiral, and then Texas would foot the bill of decommissioning. Even worse, Texas may not have sufficient funds and unusable wind turbines could litter its landscape similar to the inactive wells that congest other parts of the state. Inactive

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[337] William S. Stripling, *Wind Energy's Dirty Word: Decommissioning*, 95 TEX. L. REV. 124 (2016) ("Of America's earliest wind farms, six were abandoned in Hawaii." At one wind farm, "37 derelict wind turbines [sat] idle" for six years before being removed. Early developers in California also walked away from several large projects - some think that as many as 4,500 abandoned turbines remain in place in California.").

[338] N.D. Admin. Code 69-09-09-02 (2017), S.D. Codified Laws § 49-41B-35 (2017) and 505 Ill. Comp. Stat. Ann. 147/15 (2017).

[339] Stripling *supra* note 337 at 136 ("…do not require constriction to a state decommissioning fund or the posting of a letter of credit or performance bond.").

[340] Id. at 124.

[341] Id. at 129.

[342] *Supra* note 75 and accompanying text.

[343] Stripling *supra* note 337 at 138.

[344] Id.

[345] Id.

[346] Id.

[347] Id. at 139.

[348] *Oil field Cleanup: State Well Pluggings Remaining by District (Public)*, RAILROAD COMMISSION OF TEXAS (31 Jan. 2018) http://www.rrc.state.tx.us/media/43881/wells-remaining-01-18.pdf.

equipment also clutters the landscape, further infuriating NIMBY attitudes.[349] Nebraska requires "decommissioning security" meaning that the developer must prove that they have adequate funding to remove the equipment.[350] Similar to Texas' eminent domain laws, naked decommissioning statutes challenge surface rights and implementing a similar law to Nebraska's would protect landowners' property.

VIII. PROPOSAL AND STATUTORY GUIDELINES

A. Repeal Texas Tax Code § § 312.0021(b), 313.024(b-1)

Texas needs to repeal the sections of its tax code changed by SB 277 for several reasons. First, the bill does not fit within Texas' wind energy policy because replacing old radar equipment makes more economic sense than preventing the construction of an energy source that saved Texas and the military money.[351] Removing the tax incentives that allowed the Texas wind industry to grow also does not make sense.[352] Second, it addresses an issue, and a part of airspace,[353] the federal government traditionally regulates while implementing outdated methods the DoD has since abandoned.[354] Both experts on wind energy and radar interference commented that a one size fits all rule will not solve this problem because circumstances vary widely case by case.[355] Since FY2018 improves the DoD's process for mitigating radar interference,[356] lawmakers should not amend this statute. Last, this siting law tackles a wind energy dispute that has not come up in litigation while others have.[357] Overall, SB 277 does not follow the path Texas created to become the state with the most installed wind capacity. It over-regulates in an environment that was made possible due to uncontrolled electric gridlines and land.[358] It prevents growth for an industry that Texas spent billions to promote.[359] It impedes landowners to use part of their surface estate despite Texas' preference for free allocation

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[349] PASQUALETTI *supra* note 50 at 186.
[350] R.R.S. Neb. § 76-3001.
[351] *See supra* part II.A.
[352] *See supra* notes 69-74 and accompanying text.
[353] *See supra* part III.
[354] *See supra* part II.
[355] See *supra* notes 104-114 and accompanying text.
[356] *See supra* part II.B.1.
[357] *See supra* part VI.
[358] *See supra* notes 52-68 and accompanying text.
[359] *See supra* part I.D.

of resources and individual property laws.[360] For these reasons, the Legislature must repeal §§ 312.0021(b), 313.024(b-1) of the Texas Tax Code. In their place, Texas must consider defining the ownership of wind before implementing any more regulation.

B. Wind as a Property Interest

Texas desperately needs to define the property interest in wind because the DoD precluded surface owners from valuable airspace without compensation and SB 277 enforces similar regulations.[361] Texas created SB 277 before defining wind as a property interest.[362] Creating a property interest in wind based on this regulation alone results in an interest owned by the state which does not match Texas' focus on individual property laws.[363] Texas currently treats wind like wild animals because wind rights only exist in the form of easement or lease, remedies for interference do not exist, and it does not consider the wind potential of real estate.[364] The utility and purpose of wind as a resource mirror groundwater and minerals more than wild animals. Texas subjects these resources to the rule capture which allows severance in fee, surface owners to have outright development, and a private property interest.[365] This method of acquisition makes more sense for wind than wild animal law because one plot of land may have more wind potential than another. Wind travels through the airspace across lines of property like wild animals, but the ability for a particular plot to produce wind energy does not. Instead, the ability for a piece of property to produce wind energy comes from factors such as wind speed, temperature, direction frequency, and topography.[366] For these reasons, allowing wind ownership subject to the rule of capture makes the most sense.

Texas should not wait for the court to define wind in this manner and should instead enact a law that property owners have wind rights subject to the rule of capture. The logical place to include this law would be the Texas Property Code because legislators defined ownership of groundwater in the Texas Water Code.[367] The statute should clarify that wind does not become a right upon installation of turbines. Instead, it is part of the real estate like groundwater or minerals. This definition will prevent waste from neighbors

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[360] *See supra* part V.
[361] *See supra* part II.
[362] *See supra* part V.
[363] Id.
[364] *Supra* part V.B.
[365] *Supra* part V.C.
[366] *Supra* part IV.A.
[367] Tex. Water Code § 36.002.

competing to install turbines and use their "wind rights" first. Texas should also pass a law allowing the severance of wind rights similar to a mineral estate. The wind estate holder should have the same rights to (1) develop, (2) lease, (3) receive bonus payments, (4) receive delay rentals, and (5) receive royalty payments.[368] Since so many leases already include this language and Texans are accustomed to the mineral estate, this is the best decision for Texas.[369]

C. Protecting Surface Rights

Developing wind as a resource should not infringe on surface rights. Insufficient decommissioning laws and eminent domain have the potential to do this.[370] Texas should create a statute that leases must include proof of financial security to prevent the state financing turbine removal. To avert over-regulation decommissioning methods should be negotiated between the developer and wind right owner instead of defining them by law. The Legislature can improve eminent domain laws by implementing the changes outlined in SB 740. If enacted, the bill amends the Texas Property Code by adding two sections to 21.063 that required the condemning authority to pay for attorney fees in the appeals process. The fact that authorities must pay for their representation and the landowner's in the appeal process incentivizes authorities to make better first offers. The bill also plans to add two more sections to Chapter 21 of the Property Code outlining in detail what authorities must include in conveyances. One article describes what utility companies must include in an electrical transmission right-of-way easement, similar to the deed transmission lines would require. The document must point out specific dimensions and the extent of rights given to the authority.[371] Property owners should also be exempt from paying property taxes on any damaged land resulting from the lease. Addressing how much wind turbines impact the surface and providing property protections is a method to mitigate aesthetic opposition and NIMBY attitudes.

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[368] Chavarria *supra* note 242 at 837 (citing Altman v. Blake, 712 S.W.2d 117, 118 (Tex. 1986)).
[369] Chavarria *supra* note 332 at 4.
[370] *See supra* part VII.A.
[371] *Texas Senate Bill 740*, LEGISCAN (9 May 2017) https://legiscan.com/TX/text/SB740/2017

D. Regulating Wind

Texas should first focus on defining wind property laws before regulating the industry. However, the rule of capture alone resulted in waste for both groundwater and oil and gas.[372] Texas should make wind a natural resource to manage misuse. The *Sipriano* case shows how courts are unwilling to address waste, so Texas must make legislation regulating wind as necessary. Clarifying the ownership in wind is more important than regulation for Texas because its wind industry accomplished so much without it. To an extent, PUCT and CREZ regulated Texas wind energy without disinteresting developers. The RPS named the PUCT as the primary regulatory body to ensure Texas meets its RPS mandates.[373] PUCT made sure the grids were not overloaded and brought attention to the transmission problem.[374] One goal of wind regulation is "to direct wind-energy development toward areas judged most suitable"[375] which the PUCT and ERCOT accomplished through CREZ. Codifying wind as a natural resource in Article 59 of the Texas Constitution allows the Legislature to create laws to combat waste once wind energy becomes more common.[376] At any time the Texas Legislature may also give regulatory authority to another body as it did for minerals and the RCC.[377] In this instance, the PUCT would be the best choice because they control the gridlines that wind energy flows through and they were instrumental in CREZ. Local regulation, similar to that of GCDs, is not recommended for wind energy because it has resulted in local counties preventing wind farm construction altogether.[378] Similarly, Texas disallowed local oil and gas regulation because counties prohibited fracking.[379] Overall, a model like the RCC best suits wind energy regulation. Amending the creation of conservation easements is one regulation that Texas should address immediately. Currently, this section of the Texas Natural Resource Code allows surface owners to create easements

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[372] Id.
[373] *See* § 39.904(c)(2)(b); Act of July 20, 2005, 79th Leg., 1st C.S., ch.1, § 3, 2005 Tex. Gen. Laws 1 (The PUCT should "encourage the development, construction, and operation of new renewable energy projects at those sites in this state that have the greatest economic potential for capture and development of this state's environmentally beneficial renewable resources.").
[374] *See supra* part I.D.
[375] National Research Council, *Environmental Impacts of Wind-Energy Projects*, THE NATIONAL ACADEMIC PRESS (2007), https://doi.org/10.17226/11935.
[376] Tex. Const. art. XVI § 59.
[377] *See supra* part V.B.2.a.
[378] *See supra* VII.A.2.
[379] Saathoff *supra* note 16.

that preserve scenic views.[380] Texas courts denied aesthetic opposition as a basis for nuisance, and therefore landowners may create negative easements to prevent the construction of wind turbines. The legislature should amend this statute so that it prevents the creation of conservation easements for the intention of preventing wind energy production because the social value of wind precedes the significance of scenic views.[381]

CONCLUSION

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Texas utilized its unique legal environment[382] and created innovative programs to become the wind superpower of the United States.[383] Its wind success puts Texas in the perfect position to become the American (perhaps International) model for wind law just as it serves for oil and gas law.[384] To achieve this, the Legislature must first repeal the changes Senate Bill 277 made to sections of the Texas Tax Code. SB 277 contradicts Texas' wind energy policy and the nature of its property law. Instead of creating a novel solution[385] or unconventionally protecting private property interests;[386] SB 277 overregulates to the point of preventing development and infringing on individual property rights.[387]

Texas property law shows that the treatment of wind currently aligns with wild animal laws. Texas needs a solution that allows outright development and severance because wind leases use language such as "wind in place"[388] and sever wind.[389] For these reasons, the Legislature must amend the Texas Property Code to include wind ownership subject to the rule of capture. Texas should also protect surface rights and mitigate aesthetic opposition by modifying eminent domain statutes to add protection for landowners and creating a decommissioning law for wind that requires financial security.

Promoting Texas wind energy through laws requires defining property rights rather than regulation. However, *Sipriano* illustrates that

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[380] Tex. Nat. Res. Code Ann. § 183.001.
[381] *Supra* notes 192-194 and accompanying text.
[382] *Supra* notes 60-68 and accompanying text.
[383] *See supra* part I.C.-I.D.
[384] Godfrey *supra* note 211.
[385] *See supra* part I.D.
[386] *See supra* part V.B.
[387] *See supra* part II.C.
[388] 1-4 Wind Law *supra* note 230.
[389] Chavarria *supra* note 332.

landowners cannot rely on courts to mitigate waste,[390] so the rule of capture requires lawmakers to codify wind as a natural resource under Article 59 of the Texas Constitution. Over time, Texas can develop laws necessary to protect wind energy just as it created protections for oil and gas.[391] Avoiding local regulation and amending conservation easements so they cannot prevent wind farms are immediate recommendations.

Texas has fully embraced wind energy as a clean and economical resource.[392] Repealing SB 277 and creating wind property laws based on the rule of capture will allow Texas to continue shaping the energy sector.

[390] *Supra* notes 239-240 and accompanying text.
[391] Godfrey *supra* note 211.
[392] *See supra* part I.B.