

SUSTAINING THE UNSUSTAINABLE: OIL AND GAS DEVELOPMENT IN THE 21ST CENTURY

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I. INTRODUCTION

Extraction of oil and gas is a mining process.¹ Once discovered, mineral wealth formed over millions of years in geologic time is extracted and consumed in a matter of decades in human time.² As a consumptive enterprise, any form of fossil fuel development is unsustainable.³ Reality, however, dictates that fossil fuel development will continue throughout the twenty-first century. Projections call for a 56% increase in global energy consumption between 2010 and 2040.⁴ Fossil fuels are projected to supply 80% of world energy use through 2040 with natural gas being the fastest-growing fossil fuel in use.⁵ Absent discovery of new forms of energy to replace fossil fuels, the world will continue to run on fossil fuels.

Strong political forces seek to alter this reality. Members of the environmental community believe the optimal level of oil and gas development is no development.⁶ Recognizing, however, that preventing development may

1. “Mining” is “[t]he process of extracting ore or minerals from the ground . . .” BLACK’S LAW DICTIONARY 1085 (9th ed. 2009). “This term also encompasses oil and gas drilling.” *Id.*

2. NORMAN J. HYNE, NONTECHNICAL GUIDE TO PETROLEUM GEOLOGY, EXPLORATION, DRILLING, AND PRODUCTION 156 (2d ed. 2001) (noting that “some of the oils are very young, just a couple million years old”). For a detailed description of the oil and gas formation process, see: J. LOWE ET AL., CASES AND MATERIALS ON OIL AND GAS LAW 5-7 (6th ed. 2013). The source and vintage of oil and gas resources are suggested by their collective name: *fossil* fuels.

3. Removal and consumption of a resource that cannot be replaced within any reasonable time frame is, by definition, “unsustainable.” In this context “sustain” means “[t]o support or maintain” especially “over a long period . . .” BLACK’S LAW DICTIONARY 1585 (9th ed. 2009). This should be contrasted with the term “sustainable” when used in the context of “sustainable development” to describe strategies to pursue current development of resources without adversely impacting the needs of future generations. See Jay G. Martin & Ann L. MacNaughton, *Sustainable Development: Impacts of Current Trends on Oil and Gas Development*, 24 J. LAND, RESOURCES, AND ENVTL. L. 257, 257 (2004).

4. U.S. ENERGY INFO. ADMIN., INT’L ENERGY OUTLOOK 2013 WITH PROJECTIONS TO 2040, 1 (2013), [http://www.eia.gov/forecasts/ieo/pdf/0484\(2013\).pdf](http://www.eia.gov/forecasts/ieo/pdf/0484(2013).pdf).

5. *Id.*

6. *E.g.*, The Natural Resources Defense Council (NRDC) has identified “Curbing Global Warming” as its top priority noting: “Climate change is the single biggest environmental and

not always be possible, the next-best response is to make development as difficult and expensive as possible.⁷ By increasing what it costs to develop fossil fuels it hastens the day when the environmental community's preferred alternative energy sources become competitive. Unfortunately, the environmental community's disdain for oil and gas development has caused its members to pass up real opportunities to make the unsustainable at least a little less unsustainable.⁸

humanitarian crisis of our time. We must act now to spur the adoption of cleaner energy sources at home and abroad." NATURAL RESOURCES DEFENSE COUNCIL, *available at* <http://www.nrdc.org/about/> (last visited Jan. 25, 2014). The NRDC's second priority is "Creating the Clean Energy Future." As the NRDC explains, this second priority is closely related to the first: "America's dependence on fossil fuels threatens our national security and is a major contributor to global warming and toxic air pollution. By investing in renewable energy sources such as the sun, wind and biomass, we can help solve the energy and climate crises." *Id.*

7. This was a major goal and result of the highly successful hoax concerning hydraulic fracturing. Many state regulatory agencies, including the Kansas Corporation Commission, found they were being asked to respond to fracing problems that did not exist, and to adopt effective regulatory programs that already existed. The major concern expressed regarding hydraulic fracturing is that frac fluids will contaminate groundwater. Kansas has long had regulations in place to isolate groundwater from well fluids, to address surface spills, and to dispose of produced fluids properly. KAN. ADMIN. REGS. §§ 82-3-103 to 106 (2014) (isolate groundwater), §§ 82-3-400 to 412 (disposal of produced fluids), §§ 82-3-600 to 608 (surface spills). *See* J. LOWE ET AL., *supra* note 2, at 864. Whenever a problem, real or perceived, receives enough media attention, the likely result is for government to step in and "solve" the problem. In this case the problem was a media-created problem, and had nothing to do with the actual practice of hydraulic fracturing. The Kansas Legislature reacted by amending KAN. STAT. ANN. § 55-152 to add: "The commission may also promulgate rules and regulations necessary for the supervision and disclosure of any well on which a hydraulic fracturing treatment is performed." KAN. STAT. ANN. § 55-152 (2012). The Commission already had the authority to regulate hydraulic fracturing and had for decades effectively regulated to protect groundwater from the escape of materials, including frac fluids, from within or around an oil and gas well. The Commission, nevertheless, felt it necessary to respond to the media frenzy over fracing, and the Kansas Legislature's implicit invitation, by adopting additional "fracing" regulations. *See* KAN. ADMIN. REGS. §§ 82-3-1400 to 82-3-1402 (2013). In some jurisdictions the fear created surrounding hydraulic fracturing has resulted in moratoria and bans, which translate into a ban on most oil and gas development. *See List of Bans Worldwide*, KEEP TAP WATER SAFE, DON'T FRACK THE DELAWARE RIVER WATERSHED!, *available at* <http://keeptapwatersafe.org/global-bans-on-fracking/> (last visited Feb. 8, 2014).

8. For example, every state has an oil and gas conservation commission that focuses on how a particular oil and gas field will be developed. The problem for the environmental community is that participation at this level is a concession that development can and will take place. The Sierra Club initially supported natural gas development as a "bridge fuel," but soon abandoned that position following intense criticism by other environmental groups. Ben Casselman, *Sierra Club's Pro-Gas Dilemma, National Group's Stance Angers On-the-Ground Environmentalists in Several States*, WALL ST. J. at A6 (Dec. 22, 2009). The Sierra Club's current position is: "We view natural gas as a significant source of air and water pollution and greenhouse-gas emissions. . . . Investing in gas actually hinders deployment of wind and solar, so we want to leapfrog gas as we move to a clean-energy future." THE SIERRA CLUB, *available at* <http://www.sierraclub.org/sierra/201207/pennsylvania-fracking-shale-gas-200-sidebar.aspx> (last visited Apr. 10, 2014). *See* David E. Pierce, *Minimizing the Environmental Impact of Oil and Gas Development by Maximizing Production Conservation*, 85 N.D. L. REV. 759, 773 (2009) (posing the question "Where is the Sierra Club?").

This article proceeds on the assumption that the oil and gas industry is here to stay during the twenty-first century. Therefore, the focus should be on how all interested parties, including governments at all levels and the environmental community, can promote the development of oil and gas in the most sustainable and economically rational manner possible. The observations that follow highlight some areas where significant sustainability gains can be made while allowing the oil and gas industry to conduct its business in the most efficient manner possible.

II. MANAGING THE UNAVOIDABLE IMPACTS OF OIL AND GAS DEVELOPMENT

Oil and gas development is a demanding and sometimes disruptive land use. It can create burdens on individual landowners and the communities where it takes place. The goal is to provide for the unavoidable impacts of development by ensuring these external costs are appropriately accounted for by the enterprise. This section examines two techniques for dealing with externalities: impact fees and taxation. It also examines the problem of the severed surface owner that must, because of the limited property interest, endure development impacts without having any stake in the enterprise.⁹

A. *Exactions from Industry Must be Properly Matched with Industry Impacts*

Oil and gas are depleting natural resources.¹⁰ Once extracted, the oil and gas will be transported from the area and consumed. The impacts of development, however, can remain long after the oil and gas are removed.¹¹ Community impacts can be both positive and negative.¹² At a minimum, oil and gas development should “pay its way” by ensuring the negative externalities imposed upon the public are internalized as part of the cost of development. Externalities impacting local communities should be avoided, mitigated, or remedied. Often the developer has been adequately taxed to

9. 1 Eugene Kuntz, *A Treatise on the Law of Oil and Gas* 90 (1987) (noting the owner of the oil and gas rights has the right to “make reasonable use of the surface in connection with exploring for and exploiting the mineral deposits.”).

10. *See supra* notes 1-3 and accompanying text.

11. The most notable negative impacts associated with past oil and gas development in Kansas are thousands of unplugged abandoned wells. KANSAS CORPORATION COMMISSION, 2014 ABANDONED OIL AND GAS WELL STATUS REPORT 3-4 (2014), http://www.kcc.state.ks.us/pi/2014_abandoned_oil_and_gas_well_status_report.pdf.

12. The most notable positive community impacts include development-related revenue for landowners and oil companies, the demand for goods, services, and employees, and payment of taxes. KANSAS INDEPENDENT OIL & GAS ASSOCIATION, KANSAS OIL & GAS INDUSTRY STRATEGIC ANALYSIS 1 (2012), <http://www.kioga.org/communications/reports/2012/Ks%20Oil%20-%20Gas%20Ind>. Common negative impacts directly associated with development are the added traffic, congestion, and demand for public services. *E.g.*, Mike Lee, *Oil Boom: Bakken Truck Traffic has N.D. Counties Scrambling to Fix Roads*, ENERGYWIRE, available at <http://www.eenews.net/stories/1059988537> (last visited Oct. 8, 2013).

cover the unavoidable externalities associated with development, but the money that could be used to remedy the impact is delivered to a governmental entity and used for other purposes.¹³ In the litigation context, the money is delivered to an individual plaintiff who often has no obligation to remedy the problem alleged to exist.¹⁴

An important sustainability principle is to ensure that an adequate portion of any fees, taxes, and other exactions paid by the developer are used to address externalities in the affected communities. This could also include planning for the day when oil and gas operations cease in the community.

1. Impact Fees or Severance Tax?

An impact fee is a sum of money paid to a local government to compensate it for the burdens development places on the community.¹⁵ Some money will often be used to improve and maintain roads used by trucks providing services to a well throughout its productive life.¹⁶ Oil and gas developers, and the local communities where development takes place, will generally favor an impact fee over a severance tax.¹⁷ Developers favor an impact fee because it can be made part of the development costs without becoming a continuing charge on the net revenue stream. The impact fee potentially will not cost as much because it is based on the projected externalities of development as opposed to the productivity of a well.¹⁸ The local community will prefer an impact fee whenever it can be assured the money will be earmarked to address development impacts instead of contributing to the state treasury. Developers similarly favor the impact fee

13. For example, in Kansas there is no requirement that any of the severance and *ad valorem* oil and gas-related tax revenues flowing to state and local governments be used to mitigate negative impacts associated with oil and gas development. See *infra* text accompanying notes 33-35.

14. This issue is examined in *Louisiana v. Louisiana Land and Exploration Co.*, 110 So.3d 1038, 1048-49 (La. 2013), where the court discussed the subsequent enactment of state statutes in Louisiana to require landowners to use funds recovered in “legacy” litigation to remediate contamination. See *Marin v. Exxon Mobil Corp.*, 48 So.3d 234, 238 n.1 (La. 2010) (defining “legacy litigation” as litigation arising from “operations conducted many decades ago, leaving an unwanted ‘legacy’ in the form of actual or alleged contamination”).

15. Carmen Carrión & Lawrence W. Libby, *DEVELOPMENT IMPACT FEES: A PRIMER I*, THE OHIO STATE UNIV. DEP’T OF AGRIC., ENVTL. AND DEVELOPMENTAL ECON., http://aede.osu.edu/sites/aede/files/publication_files/dif.pdf (discussing the traditional use of the term).

16. The traditional definition of impact fees focuses on the construction of new facilities or the expansion of existing facilities. *Id.* When discussing oil and gas development impact fees, the term can include funds for maintenance or anything else the local government may be required to respond to during the life cycle of development. See *supra* text accompanying note 19.

17. A severance tax is “[a] tax imposed on the value of oil, gas, timber or other natural resources *extracted from the earth.*” In re *Edminston Oil, Co.*, 269 P.3d 833, 843 (Kan. Ct. App. 2012).

18. If the well is a dry hole, the impact fee, if tied to issuance of a drilling permit, will obviously exceed a severance tax because there will be no production to tax. However, if development results in a well that produces large quantities of oil or gas, a severance tax tied to production volumes could far exceed an impact payment that is not linked to production.

because it is more likely to return the money to the locality where development-related problems occur. Having a local fund to respond to local problems should enhance the working relationship between developers and the impacted populace. For example, having a local fund that can be used for quick response to road and traffic problems will make the inconvenience associated with development more tolerable.

The primary objection to an impact fee is that if it is in lieu of a severance tax, a potential source of state funding for general government operations is lost.¹⁹ Usually the “more of us than them” reality of politics will result in some form of general severance tax, even with prior adoption of an impact fee. Even the impact fee can become a general funding device instead of targeted externality compensation.²⁰

2. Existing Taxing Regimes

In states like Kansas, where development has taken place throughout the past 150 years,²¹ the taxing regimes are already in place and not likely to change significantly.²² Kansas has three major production-related taxes imposed on the oil and gas industry. First, is the 8% state severance tax on the value of the oil and gas at the point of extraction.²³ Second, is the county *ad valorem* tax.²⁴ Third, is the oil and gas conservation fee fund.²⁵ To appreciate the impact of each tax, in 2013 the Kansas Department of Revenue collected \$122,927,946 in total severance tax revenues.²⁶ Total *ad valorem* taxes assessed on Kansas oil and gas properties in 2012 were \$258,882,882.²⁷ In 2013 the conservation fee fund generated \$7,390,633 in revenue from Kansas

19. This is the main focus of the Pennsylvania impact fee debate. The side favoring an impact fee touts how much money it is bringing in to fund government programs. The impact fee critics complain that more money could be raised under a severance tax. Marie Cusick, *Gas drilling impact fee revenue up 11 percent this year*, STATEIMPACT, available at <https://stateimpact.npr.org/pennsylvania/2014/04/04/gas-drilling-impact-fee-revenue-up-11-percent-this-year/> (last visited Apr. 4, 2014).

20. See generally 53 PA. CONS. STAT. § 10505-A (2012).

21. FRANCIS W. SCHRUBEN, *WEA CREEK TO EL DORADO: OIL IN KANSAS, 1860-1920* 3-5 (University of Missouri Press, 1972) (although oil exploration began in 1860, the “first significant well, rated at ten barrels daily,” was completed in 1888 near Paola, Kansas).

22. Once a revenue stream is created, the benefitted governments will be loath to any change.

23. KAN. STAT. ANN. § 79-4217(a) (2012) (“There is hereby imposed an excise tax upon the severance of coal, oil or gas from the earth or water in this state for sale, transport, storage, profit or commercial use The rate of such tax [on oil and gas] shall be 8% of the gross value of all oil or gas severed from the earth or water”).

24. KAN. STAT. ANN. § 79-330 (1997) (authorizing a tax on the “reasonable and fair value” of the oil and gas well facility and the productive capacity of the well). Producers can offset up to 3.67% of their 8% severance tax liability in the form of a credit against *ad valorem* taxes paid by the producer. KAN. STAT. ANN. § 79-4219 (1997).

25. KAN. STAT. ANN. § 55-176(a) (West 2014).

26. KAN. DEP’T OF REVENUE, 2013 ANNUAL REPORT 52 (2013), <http://www.ksrevenue.org/pdf/ar13complete.pdf>.

27. KAN. DEP’T OF REVENUE DIV. OF PROP. VALUATION, STATISTICAL REPORT OF PROP. ASSESSMENT AND TAXATION 164 (Mar. 2013), <http://www.ksrevenue.org/pdf/2012statbinderall.pdf>.

producers.²⁸ Although the severance tax and *ad valorem* tax are based upon the value of the oil and gas extracted or in place,²⁹ the conservation fee is a flat sum on each barrel of oil and 1,000 cubic feet of gas produced and sold.³⁰ By generating over \$300 million in annual revenues for state and local governments, the sustainability and use of these revenue sources become a major concern.

3. Sustainability and Taxation

The major problem with using oil and gas as a major source of funding is that it can fluctuate, often wildly.³¹ For states like Kansas that tax using the current value of oil and gas, annual revenues will fluctuate with oil and gas prices. Similarly, when prices fall a decline in exploration and production will not be far behind.³² The other reality is that production from oil or gas reservoirs will decline over time and ultimately cease.³³ In theory, these realities should be considered when determining how oil and gas tax revenues should be used.

As might be expected, most oil and gas producing states use production taxes as some form of general revenue source. In Kansas about 80% of

28. KAN. LEG. RESEARCH DEP'T, KAN. CORP. COMM'N BUDGET ANALYSIS REP. 455 (2013), <http://skyways.lib.ks.us/kansas/ksleg/KLRD/BudgetBookFY13/2013BudgetAnalysisRpts/StateCorporationCommission.pdf>.

29. These taxes, when combined, create a form of double taxation by taxing the oil and gas before and after extraction. Kansas oil and gas taxes are high compared to those imposed by many other states. This negatively impacts the rate of return a developer can earn in Kansas compared to neighboring states such as Texas and Oklahoma. For example, the oil and gas taxes associated with drilling and completing a Mississippian Lime well in Kansas is estimated to be 57.1% higher than in Texas and 54.8% higher than in Oklahoma. KAN. INDEP. OIL & GAS ASS'N, KAN. OIL & GAS INDUS. STRATEGIC ANALYSIS, 2 (2012), [https://www.kioga.org/communications/reports/2012/Ks%20Oil%20-%20Gas%20Industry%20Strategic%20Analysis%20\(2012\).pdf/view](https://www.kioga.org/communications/reports/2012/Ks%20Oil%20-%20Gas%20Industry%20Strategic%20Analysis%20(2012).pdf/view).

30. Although KAN. STAT. ANN. § 55-176 authorizes the assessment, the amount of the assessment is set by regulation based upon an estimate of what the Kansas Corporation Commission believes is required to fund its various oil and gas regulatory programs. Currently the assessment works out to about 9¢ per barrel of oil and 1.3¢ per 1,000 cubic feet of gas. See KAN. STAT. ANN. § 55-176 (West 2014); see also KAN. ADMIN. REGS. § 82-3-206 (West 2014).

31. See U.S. ENERGY INFO. ADMIN., U.S. NATURAL GAS WELLHEAD PRICE, available at <http://www.eia.gov/dnav/ng/hist/n9190us3M.htm>; see also U.S. ENERGY INFO. ADMIN., CRUDE OIL FIRST PURCHASE PRICE, available at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=F000000__3&f=M.

32. This reality can be demonstrated by the current disparity between the high prices for oil and low prices for natural gas. This disparity has prompted developers to focus their drilling dollars on plays that have oil potential instead of gas potential. U.S. ENERGY INFO. ADMIN., NATURAL GAS ISSUES AND TRENDS, PRODUCTION LOOKBACK 2013, available at, <http://www.eia.gov/naturalgas/issuesandtrends/production/2013/> (last visited Apr. 10, 2014).

33. Each oil and gas reservoir has a finite amount of oil and gas that can be recovered from the reservoir. The industry predicts this gradual depletion by preparing a decline curve for each reservoir. As each well in a reservoir ceases to produce in paying quantities, it will be plugged and abandoned. NORMAN J. HYNÉ, NONTECHNICAL GUIDE TO PETROLEUM GEOLOGY, EXPLORATION, DRILLING, AND PRODUCTION 434-36 (2d ed. 2001).

severance tax revenue is placed in the state general fund.³⁴ The counties with production share in 7% of the severance tax revenue, based upon each county's proportionate contribution to taxable production.³⁵ The money returned to the county is used 50% for the county general fund and 50% for the general fund of each school district within the county.³⁶

The one modest sustainability element built into the severance tax, as of July 1, 2012, is the "oil and gas valuation depletion trust fund."³⁷ This fund comprises 12.41% of severance tax revenues that are held by the state for each county and distributed when the county experiences a defined reduction in oil and gas related *ad valorem* tax revenues.³⁸ The money is released, at 20% annual increments, into the county general fund.³⁹

Other than the conservation fee,⁴⁰ none of the taxes collected from the oil and gas industry are earmarked to address local impacts associated with oil and gas development. Instead, the tax revenues flow into the general operating fund of a governmental entity.⁴¹ Other than the "oil and gas valuation depletion trust fund" noted previously, there is no attempt to avoid using oil and gas taxes as a base source of funding for on-going government operations.

B. Compensation for the Hapless Severed Surface Owner

The worst landowner situation is to own land but none of the oil and gas that lie beneath the land.⁴² This surface owner must suffer the inconvenience associated with using the surface to access the oil and gas while having no right to share in the mineral wealth.⁴³ The severed surface owner has every

34. KAN. STAT. ANN. § 79-4227(a) (West 2014).

35. This is in the form of the "county mineral production tax fund." KAN. STAT. ANN. § 79-4227(e) (West 2013).

36. *Id.*

37. KAN. STAT. ANN. § 79-4227(a) (West 2014) (allocation of severance taxes to the fund); KAN. STAT. ANN. § 79-4231 (West 2014) (creation of the program and related fund); KAN. STAT. ANN. § 19-271 (West 2014) (administration of the fund).

38. The triggering formula requires an "oil and gas leasehold *ad valorem* valuation" that is "less than 50% of the oil and gas leasehold *ad valorem* valuation of such county for the second succeeding tax year . . ." KAN. STAT. ANN. § 79-4231(b) (West 2014).

39. *Id.*

40. In addition to funding the operations of the Corporation Commission's regulatory program, conservation fee funding is also used to plug abandoned wells. KAN. STAT. ANN. § 55-176 (West 2014); KAN. STAT. ANN. § 55-167(a) (West 2014); KAN. STAT. ANN. § 55-193 *as amended by* 2013 KAN. SESS. LAWS 1809-10.

41. *See supra* text accompanying note 34-36.

42. This state of affairs is not the fault of the developer. Most often it was the product of some far-sighted farmer that retained the oil and gas mineral estate when parting with the balance of the land. On the other side of the transaction it was the short-sighted purchaser that failed to acquire the entire bundle of sticks necessary for the full enjoyment of the land.

43. The analysis is similar to the easement-by-necessity analysis employed when a grantor conveys a tract of land surrounded by other lands owned by the grantor. If the deed is silent regarding access, the grantee is able to make reasonable use of the grantor's retained land to gain access to the isolated tract. The same concept applies to conveyance of a mineral interest. The mineral grantee can make reasonable use of the grantor's retained surface estate to develop the

incentive to do whatever they can to prevent development from occurring. This is often addressed by lessees paying surface damages to the surface owner, whether or not they may be obligated to do so.⁴⁴ The amount, however, is typically gauged to the actual damage done to the land and generally relates to the initial drilling operations.⁴⁵ Although many states have statutes that require varying degrees of compensation for surface use,⁴⁶ the amounts, like impact payments, can pale in comparison to the value of production from the land. So long as surface owners lack a financial interest in continuous and maximum production from the minerals underlying their land, they will have to resort to whatever statutory, common law, and media devices available to either halt or curtail development, or to try and extract maximum damage payments from the developer.

Perhaps a better way to approach severed surface estate owners is to cut them in on a small piece of the action, but enough to buy their allegiance throughout the development process.⁴⁷ Considering the time spent dealing with disgruntled surface owners, and their ability to obstruct smooth operations, revenue sharing may be the answer in many cases. The sharing agreement would be pursued once it is known the leased land will be drilled. At the pre-drilling stage an up-front payment could be made to the surface owner, similar to location damages, that will be recovered to the extent there is production from the well to recoup the payment. Once the up-front payment is recouped, the surface owner would then receive a monthly payment based

granted mineral estate. RESTATEMENT (THIRD) OF PROP: SERVITUDES § 2.15 (2000) provides:

A conveyance that would otherwise deprive the land conveyed to the grantee, or land retained by the grantor, of rights necessary to reasonable enjoyment of the land implies the creation of a servitude granting or reserving such rights unless the language or circumstances of the conveyance clearly indicate that the parties intended to deprive the property of those rights.

The comments to this black-letter principle address the severed mineral estate as follows:

A conveyance dividing property into horizontal estates will include implied servitudes for access from the surface estate to the estates above and below the ground. A conveyance of a profit will include a right of access to the subject of the profit. A conveyance of an easement will include a right of access to the easement. The implied rights necessary to enjoy profits and easements are often called secondary easements.

Id. at cmt. b.

44. See Ronald W. Polston, *Redefining the Relationship Between the Surface Owner and the Mineral Developer*, 12 ENERGY & MIN. L. FOUND. 22.01 (1991).

45. 1 Eugene Kunz, *A Treatise on the Law of Oil and Gas* 94 (1987) (discussing the practice of paying “location damages”).

46. *E.g.*, N.D. CENT. CODE §§ 38-11.1-01 to 11.1-10 (2014).

47. This would have to be a voluntary arrangement established by contract between the developer and the surface owner. The consideration, since the developer is under no obligation to do any of this, would be the surface owner agreeing to accept the payments as total compensation for use and disruption of the surface. Although the state could not, without triggering takings issues, order any sort of production sharing, it has the authority to establish surface reclamation and similar obligations that may be in addition to whatever private arrangement the developer may have with the surface owner. See, *e.g.*, KAN. STAT. ANN. § 55-177 (2005) (statutory reclamation provisions apply “unless the owner of the land and the abandoning party have entered into a contract providing otherwise”).

upon production operations on the surface tract. Any subsequent drilling, requiring additional up-front payments, would be similarly recouped from the surface owner's share of production revenue.

The entitlement to payment should run to the owner of the surface estate and include covenants that restrict use of the land while the agreement is in place.⁴⁸ The duration of the agreement should be tied to actual use of the surface for operations and terminate when production permanently ceases from the surface tract. The duration of the agreement could also be limited to a specified volume or value of production generated by the interest. For example, if the agreement provides that the surface owner will receive 1/4th of 1% (0.0025) of the market value of the oil and gas produced from the surface tract, once that generates \$500,000 in revenue to the surface owner it could terminate.⁴⁹ If production had not ceased prior to that point the developer could offer a new agreement and address any additional land use needs.

Such an agreement would be offered only to severed surface owners where the wells and related facilities will be located. In appropriate cases it could be expanded to include adjacent lands that will be impacted by operations even though no facilities are on the adjacent lands. The developer could "pool" surface tracts differently from mineral tracts to achieve an equitable apportionment of surface payments to adjoining surface owners. The goal would be to incur one defined charge against production for each development site. This would be factored into the net revenue interest in evaluating the economic viability of the development operation.

III. IMPROVING THE SUSTAINABILITY OF OIL AND GAS DEVELOPMENT

Although extraction of oil and gas from a reservoir in a particular locality is not a sustainable enterprise, there are things that can be done to prolong development of the resource while ensuring the inevitable termination of production is a less disruptive event. As noted in this section, production can be enhanced and prolonged by allowing engineers to develop the reservoir on a reservoir-wide basis without regard for artificial boundary lines. Because abandonment is inevitable, an effective regulatory mechanism must be in place to ensure wells are properly plugged and drill sites remediated. During development, impacted communities should have the funds and systems in place to respond to development-related problems in a timely and effective manner.

48. For example, if the surface owner is living on the surface at the time of the agreement, you would not want to allow them to lease it to a residential tenant or subdivide the land to allow further residential development. If the land is not being used for residential purposes, the developer would want to ensure it remained non-residential while the agreement was in effect. There is no reason to buy a piece with one surface occupant and then allow them to place others in possession who may then complain about development because they are not receiving any of the development revenue.

49. For a 100 barrel/day well, at \$90/barrel, this would generate \$22.50/day to the surface owner, \$675/month, and over \$8,000/year.

A. Develop Reservoirs, Not Squares, and Rectangles

The greatest strides in “sustaining the unsustainable” can be made by reducing the dominance of the *ad coelum* doctrine and the rule of capture as the legal concepts for allocating production from a reservoir. The *ad coelum* doctrine grants to a property owner everything that lies beneath the surface boundaries of land extended downward, including oil and gas.⁵⁰ The rule of capture gives title to all oil and gas produced from wells located within the producer’s land boundaries, even though the oil and gas may have migrated from adjacent lands.⁵¹ Because an oil and gas reservoir is an interconnected rock structure under pressure,⁵² activities by any landowner drilling into the reservoir can impact other owners.⁵³ When artificial property divisions at the surface are overlain on the reservoir, and these are combined with the *ad coelum* doctrine and the rule of capture, each property owner will want to drill as many wells on their property as possible to perfect title to the oil and gas they can capture.⁵⁴

All states operate under oil and gas “conservation” laws that limit the rule of capture, but retain the rule as a guiding principle.⁵⁵ All states have adopted spacing and density regulations to establish a minimum block of acreage for a single well.⁵⁶ However, allocating a square or rectangle of acreage⁵⁷ to a well does not answer the basic question of whether any well is required on the land to develop the underlying reservoir of oil and gas. This merely means the reservoir will be developed using separate squares and rectangles of acreage

50. *Ad coelum* doctrine refers to the legal maxim *cujus est solum est usque ad coelum et ad inferos*, which is translated to mean: “To whomsoever the soil belongs, he owns also the sky and to the depths.” BLACK’S LAW DICTIONARY 341 (5th ed. 1979).

51. *E.g.*, *Barnard v. Monongahela Natural Gas Co.*, 65 A. 801, 802 (Pa. Super. 1907) (no liability for drainage to wells located within draining party’s boundary lines; sole remedy of the drained party is to “do likewise” by drilling its own wells to capture oil and gas before it migrates into other lands).

52. J. LOWE ET AL., *supra* note 2, at 21.

53. *Id.* at 614.

54. *Id.* at 614-15.

55. ROBERT E. SULLIVAN, CONSERVATION OF OIL & GAS, A LEGAL HISTORY 3-4 (1960). See David E. Pierce, *Minimizing the Environmental Impact of Oil and Gas Development by Maximizing Production Conservation*, 85 N.D. L. REV. 759, 764-65 (2009).

56. This is accomplished by requiring a minimum distance from a well and property lines (spacing regulation) and by requiring a minimum block of acreage to obtain a drilling permit and lawfully operate (density regulation). In Kansas, for example, subject to some exceptions, wells must be 330 feet from any property line and have a 10-acre block of land associated with the well. KAN. ADMIN. REGS. § 82-3-207(a) (2013) (oil drilling unit); KAN. ADMIN. REGS. § 82-3-312(c) (2013) (gas drilling unit). If a tract of land is too small to meet these requirements, the developer can contractually combine surrounding tracts of acreage through “pooling” to satisfy spacing and density requirements.

57. The “square or rectangle” reference is to the configuration of acreage contained in various types of drilling blocks. For example, the Northwest Quarter of a tract of land is a 160-acre “square” and the East Half of the Northwest Quarter is an 80-acre “rectangle.” Rectangle tracts are often described as either “stand-up” or “lay-down” depending upon their north/south or east/west orientation. The East Half of the Northwest Quarter is a stand-up 80 while the South Half of the Northwest Quarter would be a lay-down 80.

without regard for the physics or geology of the natural reservoir.

Most reservoirs in the United States could be more efficiently developed by drilling fewer wells but at optimum locations within the reservoir. Wells would be drilled based upon geology and reservoir engineering instead of the *ad coelum* doctrine and the rule of capture.⁵⁸

Property rights in the oil and gas can be protected by allowing owners of land overlying a reservoir to economically participate in development without being associated with a square or rectangle of acreage containing a well. This is done, on a limited scale, through field-wide unitization.⁵⁹ A basic problem with unitization is that the conservation laws generally do not allow the conservation commission to initiate unitization on its own motion.⁶⁰ Even when pursued by a developer, unitization is difficult to achieve because a super majority of affected owners must consent.⁶¹

The sustainability benefits of abandoning the *ad coelum* rule of capture approach to oil and gas development are substantial. First, a reservoir approach to development would prolong the economic and productive life of the reservoir, resulting in more oil and gas. Second, there would be less surface disruption because wells would be drilled to respond to the reservoir instead of responding to the rule of capture. There would also be the savings in capital investment by not having to drill wells only “necessary” under the capture model to obtain a right to participate in reservoir development. The benefits of developing oil and gas reservoirs, as reservoirs, have been recognized for over 50 years. Professor Howard Williams observed in 1952: “The impact of the rule of capture upon the fact of divided interest in minerals present the major obstacle to scientific development of petroleum-producing formations.”⁶²

An example of a statutory innovation to allow reservoir development as opposed to squares and rectangles is K.S.A. § 55-1611.⁶³ This statute authorizes a city to “divide the city into drilling units for the production of” oil

58. See generally Owen L. Anderson & Ernest E. Smith, *Exploratory Unitization Under the 2004 Model Oil and Gas Conservation Act: Leveling the Playing Field*, 24 J. LAND RES. & ENV'T'L L. 277 (2004).

59. J. LOWE, ET AL., *supra* note 2, at 746-47. Unitization uses boundary lines merely to identify membership in the unit. It is not necessary that a well be on or pooled with the land in order to participate in unit production.

60. E.g., KAN. STAT. ANN. § 55-1303 (2005) (“Any working interest owner may file an application with the commission requesting an order for the unit operation of a pool or part thereof.”).

61. E.g., KAN. STAT. ANN. § 55-1305 (2005) (a plan to conduct unit operations for primary production requires the consent of 75% of the landowners and 63% of the developers overlying the reservoir area).

62. Howard R. Williams, *Conservation of Oil and Gas*, 65 HARV. L. REV. 1155, 1156 (1952). See also David E. Pierce, *Coordinated Reservoir Development—An Alternative to the Rule of Capture for the Ownership and Development of Oil and Gas: Part I*, 4 J. OF ENERGY L. & POL'Y 1, 4 (1983).

63. KAN. STAT. ANN. § 55-1611 (2005).

and gas.⁶⁴ Initially this sounds like another exercise in squares and rectangles. However, the statute also authorizes the city to “require any persons having the right to produce minerals in a drilling unit to pool their rights for the production of such minerals.”⁶⁵ The statute would allow the city to declare an entire reservoir to be a “drilling unit” and then allow all property owners within the drilling unit to share proportionately in production from any well producing from the reservoir. No particular number of wells would be required and they would not have to be distributed across the land overlying the reservoir. Instead, only those wells necessary to efficiently develop the reservoir would be drilled and they could be at locations that maximize reservoir development needs while minimizing, to the extent possible, surface disruption. Although the primary motivating force for unitizing development within a city would be public safety, it would also accomplish significant sustainability goals by allowing for coordinated development of reservoirs beneath the city. This concept is not new. The City of Oxford first engaged in the practice in the 1920s.⁶⁶

The statute is limited to development “within the corporate limits of the city.” Other aspects of development will be determined applying Kansas home rule concepts.⁶⁷ Development outside city limits will be regulated, in Kansas, by the Kansas Corporation Commission.⁶⁸

B. Provide for the Inevitable: Plugging and Abandonment

Every well drilled will ultimately need to be plugged. The problem is ensuring funds will be available to pay for the plugging and abandonment of

64. *Id.*

65. *Id.*

66. *Marrs v. City of Oxford*, 24 F.2d 541, 543 (D. Kan. 1928), *aff’d*, 32 F.2d 134 (8th Cir. 1929), *cert. denied*, 280 U.S. 573 (1929). The City of Oxford ordinance was an expanded square and rectangle approach that required development to occur with one well per city block. The unique element was the automatic “pooling” of separately-owned tracts of land within the city block drilling unit.

67. KAN. CONST. art. XII, § 5(b). In Kansas municipal home rule authority can be limited by any state legislative enactment “uniformly applicable to all cities” and which either expressly preempts the area or conflicts with city legislation. *Farha v. City of Wichita*, 161 P.3d 717, 725 (Kan. 2007). The city is also granted authority to regulate by passing provisions that do not “conflict with any state law or rule or regulation” and that provides for the “protection of the public health, safety or welfare in relation to the production of minerals within the corporate limits of the city.” KAN. STAT. ANN. § 55-1612 (2005).

68. Counties in Kansas have very limited authority regarding oil and gas development. County attempts to duplicate state regulation, by charging what amounted to a drilling permit fee, have been invalidated. *Billy Oil Co. v. Bd. of Cnty. Comm’rs of Leavenworth Cnty.*, 732 P.2d 737, 740 (Kan. 1987) (striking down a \$200 “zoning fee” that was found to have nothing to do with zoning). This resulted in a legislative response expressly limiting county authority to duplicate state regulation. KAN. STAT. ANN. § 19-101(a)(19) (Supp. 2012). An opportunity for potential conflict is when a county seeks to use its zoning authority to limit development. *See generally Zimmerman v. Bd. of Cnty. Comm’rs of Wabaunsee Cnty.*, 218 P.3d 400, 418 (Kan. 2009) (upholding ban against any commercial wind resource development within 800 square-mile area comprising Wabaunsee County, Kansas).

the well when the lease terminates. Kansas currently has over 5,000 orphaned unplugged wells.⁶⁹ To ensure the next bust in the boom/bust cycle does not leave the State of Kansas, and the industry,⁷⁰ with the expense of plugging improperly abandoned wells, an effective program must be in place to provide for the inevitable.

Any effective program will require two things: (1) assurance that an adequate amount of money, or security, is obtained to cover anticipated plugging costs; and (2) assurance that when the money is collected by the state it is, in fact, available to address future plugging problems.⁷¹ The first item is easier to address than the second. Because it is difficult to control money once it becomes subject to a legislative process, the most sustainable approach may be a system of financial security using an escrow account, letters of credit, bonds, or other non-cash surety devices that attach to a well and continue throughout its life cycle. This topic requires frequent review to ensure the things being done now will do the job in the future without additional public or industry funding.⁷²

C. Provide for Anticipated Impacts and Be Prepared to React Quickly to Unanticipated Impacts

Another benefit of reservoir development as opposed to an *ad coelum*/rule of capture approach is that coordinating developers can be dealt with as a group to address issues such as road maintenance and other community and land use impacts. When development proceeds on an individual basis, often no single party can be identified as being responsible for distributed impacts, such as road wear. Most land use coordination that will take place will be between individual landowners and developers, and will be guided by private contract. These agreements rarely address activities that take place off the leased premises. Off-lease activities will be governed by agreements with public entities or by regulation. Developers should, and often do, coordinate with public entities to address impacts that may not be readily apparent to public officials unfamiliar with oil and gas development. Noise, traffic, and demands on utility services such as water, sewer, and electricity, can often be anticipated. Coordination and agreement on public impacts can avoid less effective regulatory reactions to development.

Known development impacts should be addressed in advance so that all

69. KAN. CORP. COMM'N, 2014 ABANDONED OIL AND GAS WELL STATUS REPORT 3 (Jan. 2014), http://www.kcc.state.ks.us/pi/2014_abandoned_oil_and_gas_well_status_report.pdf.

70. Past experience demonstrates that a failure to adequately address this issue will result in an assessment of some sort against the industry to fund current plugging problems. *E.g.*, KAN. STAT. ANN. § 55-176 (Supp. 2012) (allowing the Kansas Corporation Commission to assess the industry, through the conservation fee fund, to administer its programs, including well plugging programs).

71. Plugging fees and other money paid into a state's general fund may be diverted to other uses and not available when the need arises.

72. *See, E.g.*, KAN. STAT. ANN. § 55-155 (d) (Supp. 2012) (illustrating that Kansas already has several options for operators to comply with "financial responsibility" requirements.).

parties, public and private, know what to expect. It is equally important to promptly address unanticipated impacts as they arise. Unanticipated impacts are often the product of underestimating the success and resulting scope of development. To effectively respond, it may require coordination with other developers. Whether the initiative comes from developers or a public official, many impacts will require a collective response. Otherwise, the only other way to obtain concerted action will be to legislate it at the behest of a state or local legislative body. This takes too long to get into place and, because of the political process, often goes too far, or not far enough, regarding the optimum response to a problem. In the meantime the problem goes unsolved and festers.

IV. COMPETING LAND USES: OIL, WIND, AND AGRICULTURE

The use of land to capture energy can be intense. Frequently, the existing use of land targeted for oil and gas or wind development will be for agriculture. The relative rights between the agricultural user and first energy developer will, in most cases, be easy to work out.⁷³ The problem arises when a subsequent energy developer seeks to use the same land for development. Whether the first user is a wind developer or oil and gas developer, the subsequent energy developer's preferred use of the land will most likely conflict with rights held by the first user.

A. *A Matter of Easement Law and First-In-Time, First-In-Right*

Although a lot of hand-wringing has taken place over "oil and gas" and "wind" conflicts, the issue is a simple one of easement law and which party received its rights first. There is nothing special about wind. It could just as easily be a big tree,⁷⁴ carport,⁷⁵ or pole barn⁷⁶ instead of a wind turbine or solar array. The issue will arise in one of four scenarios. First, and perhaps the most likely scenario to catch parties by surprise, is the severed mineral owner. Assume that sometime between the 1860s and the time a Kansas landowner seeks to authorize wind development, a mineral interest was severed from the balance of the rights in the land. The deed creating the severance will most likely be silent on surface rights, or contain minimal express language authorizing entry to develop the severed mineral interest. Although the focus

73. If the owner of the land is not willing to subordinate its agricultural use to accommodate the energy developer, development will not occur. If the owner of the land does not own the mineral rights, or the wind rights, the prior conveyance of those rights may limit the surface owner's ability to object to surface use to accommodate the energy developer. *See infra* text accompanying notes 81-85.

74. *Brown v. Conoco Phillips Pipeline Co.*, 271 P.3d 1269, 1277 (Kan. Ct. App. 2012) (likelihood that tree roots could interfere with pipeline constituted a material interference with the use and enjoyment of the easement justifying removal of the tree).

75. *Aladdin Petroleum Corp. v. Gold Crown Properties, Inc.*, 561 P.2d 818, 825 (Kan. 1977) (car ports extending into easement area ordered removed).

76. *Mid-America Pipeline Co. v. Wietham*, 787 P.2d 716, 725 (Kan. 1990) (proper remedy for constructing buildings over pipeline easement is to remove the buildings).

is typically on oil and gas, the same issue arises with a severance of coal, limestone, and other minerals.⁷⁷ The landowner's residual rights available to grant to a wind developer, or to anyone else, will depend upon the scope of the surface rights associated with the severed mineral interest. Similarly, the rights available to grant a subsequent developer will be defined by the conveyance creating the severed mineral interest.⁷⁸

The three remaining scenarios all assume there has been no prior severance of a mineral interest. The second is where the landowner enters into an oil and gas lease still in effect when the wind developer seeks its rights. In that situation the oil and gas lease will typically contain express easements that can be supplemented with implied easements to ensure the surface can be used to support oil and gas operations.⁷⁹ The analysis will be similar to the first scenario, but the oil and gas lessee's rights will often be broader, because of express easements in the lease.

The third situation is where "wind rights" or "solar rights" have been severed from the land.⁸⁰ In Kansas this issue arises, as to the severance of affirmative development rights, only when the conveyance document was recorded prior to July 1, 2011.⁸¹ The analysis is similar to the severed mineral owner. The conveyance creating the severance will establish the express and implied rights to use the surface estate to support the severed wind or solar

77. With coal and limestone the implied or express easement would include the right to destroy the surface, if necessary, to mine the mineral.

78. Kuntz, *supra* note 9, at 92 (discussing how rights may be defined in the deed creating the severance).

79. *E.g.*, Mai v. Youtsey, 646 P.2d 475, 479-80 (Kan. 1982), the court, after noting the oil and gas lease was silent regarding ingress and egress, stated: "It is generally held that an oil and gas lease creates by implication what is necessary to effectuate the grant. . . . It is generally held the mineral lessee may make reasonable use of the surface of the leased land in carrying out the legitimate object of the lease." *Id.* at 479-80.

80. "Solar" rights refer to the right to construct, operate, and maintain a solar energy facility on the surface of land. Depending upon the type of development, this could constitute a more or less intensive use of the surface than a commercial wind development. The conflicting use analysis would be the same as for wind or any other surface activity.

81. KAN. STAT. ANN. § 58-2272(c) (Supp. 2013). The Kansas Legislature, in 2011, enacted § (b) to KAN. STAT. ANN. § 58-2272 that states: "No person other than the surface owner of a tract of land shall have the right to use such land for the production of wind or solar generated energy unless granted such right by the lawful owner of the surface estate by lease or easement for a definite period." Although the surface owner cannot sever from the surface estate the right to "use such land for the production of wind or solar generated energy," the surface owner has the power to create a "restriction on the use of any tract of land for the production of wind or solar energy whether or not such restriction is in the form of an easement for a definite term." *Id.* at § (d). Therefore, restrictions on the use of land for wind or solar energy development could be included in a mineral deed or oil and gas lease. Most states have not taken away the landowner's freedom to deal with their wind and solar rights as they deem appropriate. Kansas has. For a compelling argument for limiting severance of wind rights from the surface estate, see: K.K. DuVivier, *Animal, Vegetable, Mineral – Wind? The Severed Wind Power Rights Conundrum*, 49 WASHBURN L. J. 69, 86 (2009) (noting the importance of retaining the surface owner as the one party with an interest in seeing all resources fully developed, including oil and gas, wind, and agriculture).

right.

The fourth situation is where the landowner enters into a wind lease or easement and then the landowner seeks to lease the land for oil and gas development. Most wind leases contain broad surface use rights that restrict or prohibit oil and gas development.⁸² The informed landowner will often seek to preserve the ability to develop the oil and gas potential of the land.⁸³

The “agriculture” issue typically arises with the concurrent use of the surface for farming operations. First-in-time issues will arise when the party claiming agricultural development rights is a third party farm tenant. This can give rise to interesting issues regarding the scope of the farm lease. Many of these issues are resolved by the short-term nature of farm leases. To the extent a longer-term lease exists, it too will be addressed by defining the timing and scope of the rights held by the farm tenant.

B. The Restatement (Third) of Property: Servitudes

The *Restatement (Third) of Property: Servitudes* will play a major role in resolving easement scope, conflict, and accommodation issues.⁸⁴ The *Restatement*, however, offers little innovation for those seeking to promote concurrent development of land subject to competing easement rights. For example, §4.12 addresses “Rights of Holders of Separate Servitudes in Same Property,” and provides that the “holders of separate servitudes” granting rights in the same property “must exercise their rights so that they do not unreasonably interfere with each other.”⁸⁵ That is not surprising. Nor is the *Restatement* remedy when competing easement rights cannot coexist: “In the event of irreconcilable conflicts in use, priority of use rights is determined by priority in time, except as a later-created servitude takes free of another under the applicable recording act.”⁸⁶ Therefore, assuming the easement is timely recorded: first-in-time, first-in-right.

Once an easement is granted, the owner of the land can use the land, and authorize others to use it, only in a manner “that does not unreasonably interfere with enjoyment of the servitude.”⁸⁷ The scope of the easement will

82. See K.K. Duvivier & Roderick E. Wetsel, *Jousting at Windmills: When Wind Power Development Collides With Oil, Gas, and Mineral Development*, 55 ROCKY MTN. MIN. L. INST. 9-1, 9-33 (2009) (sample broad “purpose clause” in a wind lease).

83. *Id.* at 9-23.

84. Although the *Restatement* contains the odd acknowledgment that it applies to “profits for the removal of . . . oil, gas, and minerals” only to the extent “special rules and considerations” do not otherwise apply, courts are free to use the *Restatement* to address mineral issues the same as it would any form of persuasive authority. RESTATEMENT (THIRD) OF PROP.: SERVITUDES § 1.1 (2000). What appears to be a limiting statement would apply to any *Restatement* provision. *Restatements* are not the law, but can be highly persuasive as to what the law was, is, or should be. David E. Pierce, *Oil & Gas Easements*, 33 ANNUAL ENERGY & MIN. L. INST. 318, 325 (2012) (discussing RESTATEMENT (THIRD) OF PROP.: SERVITUDES § 1.1).

85. RESTATEMENT (THIRD) OF PROP.: SERVITUDES § 4.12 (2000).

86. *Id.*

87. *Id.* at § 4.9.

be defined by its terms and by principles that recognize the land will be used “in a manner that is reasonably necessary for the convenient enjoyment of the servitude.”⁸⁸ To keep pace with advances in technology, the *Restatement* also provides: “The manner, frequency, and intensity of the use may change over time to take advantage of developments in technology and to accommodate normal development of the dominant estate or enterprise benefited by the servitude.”⁸⁹ This would include horizontal drilling and new turbine sizes and designs.⁹⁰

One major *Restatement* innovation that allows the burdened landowner, under limited circumstances, to “relocate” an easement to accommodate a desired competing surface use, is found at §4.8(3) which provides: “the owner of the servient estate is entitled to make reasonable changes in the location or dimensions of an easement, at the servient owner’s expense, to permit normal use or development of the servient estate”⁹¹ This remedy is available only if the owner of the servient estate can establish that the change will not: “significantly lessen the utility of the easement;” “increase the burdens on the owner of the easement in its use and enjoyment;” or “frustrate the purpose for which the easement was created.”⁹² Even this limited accommodation obligation can be conveyed away in the easement document.⁹³

Several states, in the oil and gas context, have developed what is known as the “accommodation doctrine.”⁹⁴ The practical effect of the doctrine is to take easement rights away from the oil and gas lessee and give them back to the lessor. Most notably, when accommodation is required under the doctrine, not only does the lessee lose easement rights, it is the lessee that must pay to assist the lessor in fulfilling the loss.⁹⁵ Although some commentators place great hope in the accommodation doctrine to force oil and gas lessees to accommodate second-in-time wind operations,⁹⁶ I predict the doctrine will

88. *Id.* at § 4.10.

89. *Id.*

90. See generally, David E. Pierce, *Oil & Gas Easements*, 33 ANNUAL ENERGY & MIN. L. INST. 318, 327 (2012).

91. RESTATEMENT (THIRD) OF PROP: SERVITUDES § 4.8(3) (2000).

92. *Id.* at § (3)(a)-(c).

93. The potential relocation right is available “[u]nless expressly denied by the terms of an easement” *Id.* at § (3).

94. Consistent with the adage that “bad facts make bad law,” the obligation to accommodate arose with *Getty Oil Co. v. Jones*, 470 S.W.2d 618 (Tex. 1971), where the oil and gas lessee refused to place its pump jacks in cellars to allow the farmer to operate a self-propelled center-pivot irrigation system. The farmer installed the self-propelled system *after* Getty had leased the land and acquired its easement rights but *before* Getty drilled the two obstructing wells. *Id.* at 620. The “bad facts” were that all the other competing operators in the area had voluntarily placed their pump jacks in cellars to accommodate the same farmer’s center-pivot irrigation on adjacent lands. *Id.* This is probably why the court felt comfortable making the lessee cover the cost to place its pump jacks in cellars.

95. David E. Pierce, *Oil & Gas Easements*, 33 ANNUAL ENERGY & MIN. L. INST. 318, 340-41 (2012).

96. *E.g.*, Becky H. Diffen, *Energy From Above and Below, Who Wins When a Wind Farm and Oil & Gas Operations Conflict?* 3 TEX. J. OF OIL, GAS, AND ENERGY L. 240, 246-51, 254

offer little assistance. First, the doctrine was not designed to allow activities that materially interfere with the oil and gas lessee's easement rights.⁹⁷ Second, the lessee-pays aspect of the doctrine will ensure it is used sparingly when the goal is to accommodate a competing commercial enterprise as opposed to a farmer wanting to irrigate his land.

For states that have not fully developed an accommodation doctrine, *Restatement* §4.8 offers a more fair and predictable process to accommodate, particularly when the issue concerns competing commercial uses of the burdened land.⁹⁸ This would properly balance situations where the landowner's solution to any desired surface use is to make the lessee engage in "directional drilling" instead of vertical drilling. If the landowner must pay for the increased cost and risk associated with directional drilling, such demands for accommodation will rarely be pursued. It would, however, be a potentially viable way for a second-in-time wind developer to purchase the rights it needs—instead of obtaining them at the expense of the person holding the first-in-time rights. Making the party to be accommodated pay for the accommodation would be a positive development when dealing with a competing commercial enterprise. Otherwise, at least under the *Restatement*, the requested accommodation would fail the accommodation test by significantly lessening the utility of the easement, increasing the burdens on the easement owner, and frustrating the purpose for which the easement was created.

V. CONCLUSION

Any form of mineral extraction is an unsustainable enterprise. As such, planning for the last day of production should begin prior to the first day of

(2008).

97. For example, in the *Getty* case there was no doubt that the lessee would be able to put pumps jacks on the land. *Getty Oil Co.*, 470 S.W.2d at 621 ("Jones does not . . . deny Getty's right to . . . install some type of pumping equipment when necessary for production.").

98. Kansas has not adopted an accommodation requirement. The mystery case in this area is *Rostocil v. Phillips Petroleum Co.*, 502 P.2d 825 (Kan. 1972). This is an example of not needing bad facts to make bad law. This probably also explains why the opinion was cloaked in author-anonymity under the heading "*Per Curiam*." The precise holding of the case is that the express terms of the oil and gas lease created a continuing obligation to bury pipelines below plow depth. *Id.* at 826. The dispute was not whether the pipelines could be re-buried to accommodate terracing of the land, the issue was whether the farmer or the oil company would pay the cost. *Id.* In an effort to suggest the oil and gas lease does not grant an easement to the oil company, the court characterized the oil and gas lease as "a landlord and tenant relationship" and "personal property." *Id.* Without any further analysis the court declared: "[w]e do not have here a grant of a permanent easement for a stipulated price, with a dominant estate in the grantee." *Id.* The statement is simply wrong. The oil and gas lease in Kansas is a collection of express easements combined with a profit to enter and remove oil and gas from the land. *E.g.*, *Burden v. Gypsy Oil Co.*, 40 P.2d 463, 466 (1935) (restating prior holdings that the oil and gas lease in Kansas is a "license" and an "incorporeal hereditament," before noting, correctly, it is a *profit à prendre*). Because the court purported to rely upon the contract language for its decision, the statements, in any event, are *dicta*.

production. Planning should include how best to economically deal with the unavoidable impacts of development. For oil and gas wells, an adequate source of funding must be available to plug wells when they cease to be of value to a developer. In Kansas it appears the industry is already heavily taxed with funds being collected to administer existing programs designed to achieve orderly and environmentally sound development. The problem in Kansas and elsewhere is that exactions on the oil and gas industry are rarely earmarked for use in addressing impacts in the communities where development is taking place. Although funds may be returned to the local communities, they are typically used, and therefore viewed, as merely part of the general funding of government.⁹⁹

The one area where significant sustainability gains can be made is by adopting principles that allow the oil and gas reservoir to be developed as a reservoir. This will require further restraints on the rule of capture to avoid waste of the oil and gas resource and to protect the correlative rights of all owners overlying a reservoir. Until state conservation commissions are allowed to move beyond squares and rectangles to address development of the reservoir, unnecessary wells will be drilled, surface resources will be unnecessarily consumed, and the full productive capacity of the reservoir will not be realized.¹⁰⁰

99. See *supra* text accompanying notes 34-36 (discussing how Kansas distributes severance and *ad valorem* tax revenues).

100. Advances can be made in this area by conservation commissions aggressively asserting their existing statutory authority to prevent “waste” and protect correlative rights. *E.g.*, KAN. STAT. ANN. § 55-601 (2005) (“The production of crude oil . . . in such manner and under such conditions as to constitute waste is hereby prohibited and shall be unlawful.”); KAN. STAT. ANN. § 55-701 (2005) (“The production of natural gas . . . in such manner and under such conditions and for such purposes as to constitute waste is hereby prohibited.”). To achieve broader use of compulsory field-wide unitization will require legislative action.