

CORPORATE SOCIAL RESPONSIBILITY IN THE AGE OF HYDRAULIC FRACTURING IN THE UNITED STATES AND THE UNITED KINGDOM

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I. INTRODUCTION

An ever-increasing body of literature seeks to define, justify, and influence the purpose of a corporation, fueling a battle between proponents of shareholder value theory¹ on the one hand and those arguing for a broader view of the corporation and its stakeholders (“stakeholder theory”) on the other hand. The manner in which law defines, depicts, and measures a corporation is of acute importance where laws and regulations struggle to keep pace with technology and innovation. Over the past few years, the production of unconventional gas² trapped in deep underground rock layers has become an increasingly important source of energy in the United States³ and may have a similar potential in the United Kingdom.⁴ Hydraulic fracturing (commonly called “fracking”) is a process by which large quantities of water, sand, or other propping agent and chemicals are pumped underground to break apart rock layers to release shale gas.⁵ Environmental hazards include gas leaking into the atmosphere,⁶ gas or contaminants from wells or fractures seeping into aquifers, and sur-

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1. This Article will generally use the phrase “shareholder value theory” to denote the concept that directors must act in the best interest of the shareholders, although other literature assigns the terms “shareholder value maximization theory” or “shareholder primacy theory.”

2. The phrase “unconventional gas” refers to shale gas, coal bed methane, and underground coal gasification.

3. Russell Gold, *Fracking Gives U.S. Energy Boom Plenty of Room to Run*, WALL STREET J. (Sept. 14, 2014, 5:04 PM), <http://www.wsj.com/articles/fracking-gives-u-s-energy-boom-plenty-of-room-to-run-1410728682>.

4. U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2015 WITH PROJECTIONS FOR 2040 (2015), [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf).

5. T. J. GALLEGOS, B. A. VARELA, S. S. HAINES, & M. A. ENGLE, HYDRAULIC FRACTURING WATER USE VARIABILITY IN THE UNITED STATES AND POTENTIAL ENVIRONMENTAL IMPLICATIONS 5839 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4758395/pdf/WRCR-51-5839.pdf>.

6. Robert W. Howarth, *A Bridge to Nowhere: Methane Emissions and the Greenhouse Gas Footprint of Natural Gas*, 2 ENERGY SCI. & ENG'G 47, 47-50 (2014).

face spills of contaminated water.⁷ While the practice has been used for decades,⁸ discovery of significant reserves, coupled with improved technology, has propelled the hydraulic fracturing industry in the United States into an unparalleled source of energy.⁹ Although available data suggests the United Kingdom only possesses moderate shale gas reserves, hydraulic fracturing could potentially contribute to a significant number of jobs in areas of high unemployment, provide a source of tax revenue, and reduce the cost of energy in the country.¹⁰ In both U.S. corporate law and U.K. company law (together, “Anglo-American corporate law”¹¹), shareholder value theory—the dominant view in the judiciary and the academy—has inhibited higher levels of corporate sustainability, often termed Corporate Social Responsibility (“CSR”). The risks associated with hydraulic fracturing illustrate the importance of reorienting legal scholarship away from the dominance of shareholder value theory to models that prioritize sustainability.

This Article argues the dominance of the shareholder value theory exposes local communities to environmental and social risks by encouraging energy companies to seek short-term gain without addressing detrimental externalities for the local community, the environment, and other stakeholders. Although stricter and more streamlined regulation is desirable, this Article argues that Anglo-American corporate law itself must be more responsive to CSR as well as support other initiatives to improve corporate behavior. This Article initially presents the legal background relevant to hydraulic fracturing in the United States, the United Kingdom, and the European Union. Then, the Article outlines the risks that the hydraulic fracturing industry presents, including water contamination, greenhouse gas emissions, stress on local communities, and other issues. Next, the Article explains the debate between the shareholder value theory and the stakeholder theory and its impact on the hydraulic fracturing in-

7. GALLEGOS ET AL., *supra* note 5, at 5843.

8. See generally Jason Schumacher & Jennifer Morrissey, *The Legal Landscape of ‘Fracking’: The Oil and Gas Industry’s Game-Changing Technique Is Its Biggest Hurdle*, 17 TEX. REV. L. & POL’Y 241, 241 (2012-2013). The authors note that the first horizontal well was completed in 1929, and since the 1940s, the process has been regularly used. *Id.*

9. Susan Williams, *Discovering Shale Gas: An Investor Guide to Hydraulic Fracturing*, SUSTAINABLE INV. INST. 8 (Feb. 2012), http://www.siinstitute.org/special_report.cgi?id=21.

10. EDWARD WHITE, MIKE FELL & LOUISE SMITH, BRIEFING PAPER: SHALE GAS AND FRACKING 8 (2015), researchbriefings.files.parliament.uk/documents/CDP-2016-0018/CBP06073.pdf.

11. While distinct legal systems, U.S. corporate and U.K. company law both share an emphasis on shareholder primacy and wealth maximization in contrast to continental European corporate models that focus on a broader range of stakeholders.

dustry. Finally, the Article presents recommendations for addressing problems facing the industry with respect to deficiencies in the law.

II. BACKGROUND AND REGULATORY ENVIRONMENT IN THE UNITED STATES, THE UNITED KINGDOM, AND THE EUROPEAN UNION

Conventional oil and gas are found in permeable rocks, including sandstone.¹² Shale gas, however, is contained in impermeable shale, which requires fracturing in order to release the trapped gas.¹³ The product of hydraulic fracturing is natural gas, which, while cleaner than other fossil fuels, still contributes to carbon emissions.¹⁴ Oil companies in the United States and elsewhere have aggressively employed hydraulic fracturing over the past few years as more accessible carbon fuels have been depleted and extraction technology has improved.¹⁵ In July 2014, the British Department of Energy and Climate Change (“DECC”) began receiving applications for licenses to engage in hydraulic fracturing in the United Kingdom and announced the successful bids in 2015.¹⁶

A. REGULATORY STRUCTURE IN THE UNITED STATES

As the purpose of this Article is to examine the possible influence of corporate law on hydraulic fracturing activities, an extended discussion of environmental regulation is outside the scope of this research; however, an overview of the regulatory landscape provides the background for this Article’s main discussion. Over the past few years, the hydraulic fracturing industry has grown exponentially in the United States.¹⁷ Although a patchwork of federal and state regulations addresses hydraulic fracturing in the United States, there is no comprehensive regulatory regime at the federal level.¹⁸ While Congress may claim authority to regulate the industry under the Commerce Clause, individual states have generally governed the most important is-

12. *Developing Onshore Shale Gas and Oil—Facts About ‘Fracking,’* U.K. Dep’t Energy & Climate Change (Dec. 2013), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265972/Developing_Onshore_Shale_Gas_and_Oil_Facts_about_Fracking_131213.pdf [hereinafter *Facts About Fracking*].

13. *Id.*

14. Howarth, *supra* note 6, at 47-50.

15. Schumacher & Morrissey, *supra* note 8, at 241.

16. JEANNE DELEBARRE, ELENA ARES & LOUISE SMITH, *SHALE GAS AND FRACKING 15* (2017), <http://researchbriefings.files.parliament.uk/documents/SN06073/SN06073.pdf>.

17. Schumacher & Morrissey, *supra* note 8, at 241.

18. *Id.* at 260.

sues,¹⁹ including drilling process integrity, well location, and fracturing chemical disclosure.²⁰

The hydraulic fracturing industry enjoys exemptions from a number of federal regulatory regimes, including, *inter alia*, the Resource Conservation and Recovery Act²¹ (“RCRA”), the Safe Drinking Water Act²² (“SDWA”), the Clean Water Act²³ (“CWA”), and the Emergency Planning and Community Right-To-Know Act²⁴ (“EPCRA”). First, RCRA requires parties treating, storing, or disposing of toxic waste to comply with strict technical and financial guidelines. Although fracking fluids typically contain trace elements subject to RCRA regulation, Congress exempted oil and gas waste through the Solid Waste Disposal Act Amendments of 1980,²⁵ which resulted in less stringent storage requirements.²⁶ Second, Congress enacted the Solid Waste Disposal Act²⁷ (“SDWA”) in 1965 to safeguard surface and underground water sources that are actually or potentially available for human consumption. Through the Energy Policy Act of 2005,²⁸ Congress exempted the hydraulic fracturing industry from regulatory requirements under the SDWA, which safeguards drinking water aquifers through its technical and reporting requirements to prevent contamination.²⁹ Third, the CWA regulates the disposal of wastewater as well as the adoption of measures to prevent pollution in storm water discharges.³⁰ Fourth, the EPCRA is designed to help protect communities from chemical hazards that could threaten public health, the environment, and safety.³¹ However, firms that engage in fracking currently are not required to comply with the EPCRA’s requirement to submit annual reports (*i.e.*, “Toxic Chemical Release Form”) relating to toxic chemicals to the Environmental Protection Agency (“EPA”).³²

Congressional attempts to regulate the industry on a federal level have largely failed. On June 9, 2009, Dianna DeGette, Maurice

19. *Id.* at 242.

20. *Id.*

21. Pub. L. No. 94-580, 90 Stat. 2795 (1976).

22. Pub. L. No. 93-523, 88 Stat. 1660 (1974).

23. 62 Stat. 1155 (1948).

24. Pub. L. No. 99-499, 100 Stat. 1728 (1986).

25. Pub. L. No. 96-482, 94 Stat. 2334 (1980).

26. 40 C.F.R. § 243.200-1(a) (2002).

27. Pub. L. No. 89-272, 79 Stat. 997 (1965).

28. Pub. L. No. 109-58, 119 Stat. 594 (2005).

29. 42 U.S.C. § 300h(d)(1)(B) (2005).

30. U.S. ENVTL. PROTECTION AGENCY, <http://www2.epa.gov/enforcement/water-enforcement#cwa> (last visited Jan. 24, 2018).

31. *Id.*

32. William J. Brady & James P. Crannell, *Hydraulic Fracturing Regulation in the United States: The Laissez-Faire Approach of the Federal Government and Varying State Regulations*, 14 Vt. J. ENVTL. L. 39, 48 (2012).

Hinchey, and Jared Polis introduced the Fracturing Responsibility and Awareness of Chemicals Act³³ (“FRAC Act”) in the House of Representatives while Bob Casey and Chuck Schumer concurrently introduced the FRAC Act in the Senate. The FRAC Act would recognize hydraulic fracturing as a federally regulated activity under the SDWA, which would require hydraulic fracturing firms to disclose the chemicals in hydraulic fracturing fluid. After the 111th Congress adjourned without passing the FRAC Act in January 2011, Bob Casey and Diana DeGette reintroduced it in March 2011 in the Senate and the House of Representatives, respectively, although it did not pass. Currently not passed, the FRAC Act was reintroduced on June 11, 2013.³⁴ From March 2010, the EPA engaged in a multiyear study of a number of well sites throughout the United States and published an interim report in 2012 that detailed the extent of the study.³⁵ In 2016, the EPA released its final report examining the impact of hydraulic fracturing on the quality and volume of drinking water resources.³⁶

Beyond meeting any relevant federal thresholds, states³⁷ enjoy discretion to regulate hydraulic fracturing as they see fit, which has resulted in a lack of uniformity nationally with some states granting their respective environmental agency independent authority while others allow regulation through their respective processes of granting well permits.³⁸ Currently, Vermont,³⁹ New York,⁴⁰ and Maryland⁴¹ have all banned hydraulic fracturing. Other states, such as Texas and Louisiana, have assigned regulatory authority to a particular state agency. For example, in Texas, the Oil and Gas Division of the Texas Railroad Commission has the authority to grant permits for hydraulic fracturing⁴² while the Louisiana Department of Natural Resources Office of Conservation has authority in Louisiana.⁴³

33. H.R. REP. NO. 1084 (2009); S. REP. NO. 587 (2009).

34. S. REP. NO. 1135 (2013).

35. See U.S. ENVTL. PROTECTION AGENCY, HYDRAULIC FRACTURING FOR OIL AND GAS: IMPACTS FROM THE HYDRAULIC FRACTURING WATER CYCLE ON DRINKING WATER RESOURCES IN THE UNITED STATES (FINAL REPORT) (2016).

36. See U.S. ENVTL. PROTECTION AGENCY, *supra* note 30.

37. A comprehensive review of state regulation is beyond the scope of this Article. For a summary of such regulation, see Schumacher & Morrissey, *supra* note 8, at 280-300.

38. Brady & Crannell, *supra* note 32, at 53.

39. See VT. STAT. ANN., tit. XXIX, § 571(a) (West 2017).

40. See N.Y. DEP’T OF HEALTH, A PUBLIC HEALTH REVIEW OF HIGH VOLUME HYDRAULIC FRACTURING FOR SHALE GAS DEVELOPMENT 3 (2015), http://www.health.ny.gov/press/reports/docs/high_volume_hydraulic_fracturing.pdf.

41. MD. CODE ANN., ENVIR. § 14-107.1 (West 2017).

42. Brady & Crannell, *supra* note 32, at 60-61.

43. *Id.* at 61-62.

B. U.K. REGULATORY ENVIRONMENT

As in the United States, a number of different bodies exert influence on the fracking industry in the United Kingdom. The Department of Business, Energy and Industrial Strategy (“BEIS”), previously the DECC, has the authority to grant permission for fracking⁴⁴ with the same process for obtaining permission for drilling as that of conventional and unconventional gas.⁴⁵ The Oil and Gas Authority is responsible for issuing licenses.⁴⁶ If required, the operator must complete an environmental-impact assessment.⁴⁷ In addition, the regional Environmental Agency must grant the appropriate permits to the operator.⁴⁸ The operator must also notify the Health and Safety Executive of the well design and plans for operation.⁴⁹ The operator must ensure that an independent well examiner conducts a complete examination of the well’s design and construction.⁵⁰ Further, the operator must obtain planning permission from the Minerals Planning Authority, local council, or the equivalent.⁵¹ Under the Water Resources Act of 1991, the operator must serve notification of intention to drill to the Environment Agency.⁵² Additionally, the operator must apply for consent to drill from the DECC as well as include a hydraulic fracturing plan and advise the British Geological Survey. In December 2012, the British Government set up the Office of Unconventional Gas and Oil within the DECC to be responsible for “the safe, responsible, and environmentally sound recovery of the U.K.’s unconventional reserves of gas and oil.”⁵³ Following the en-

44. See generally, *Guidance on Fracking: Developing Shale Gas in the UK*, DEP’T BUS., ENERGY & INDUS. STRATEGY (Jan. 13, 2017), <https://www.gov.uk/government/publications/about-shale-gas-and-hydraulic-fracturing-fracking/developing-shale-oil-and-gas-in-the-uk> [hereinafter *Guidance on Fracking*].

45. The precise regulatory framework is summarized by the Department of Business, Energy and Industry. See *Roadmap: Onshore Oil and Gas Exploration in the U.K. Regulation and Best Practice*, DEP’T BUS., ENERGY & INDUS. STRATEGY (Dec. 17, 2013), <https://www.gov.uk/government/publications/regulatory-roadmap-onshore-oil-and-gas-exploration-in-the-uk-regulation-and-best-practice> (last updated Mar. 14, 2018) [hereinafter *Roadmap*]; *Onshore Oil and Gas Exploration in the UK: Regulation and Best Practice*, DEP’T BUS., ENERGY & INDUS. STRATEGY, (Dec. 2015), https://www.gov.uk/. . . /Onshore_UK_oil_and_gas_exploration_England_Dec15.pdf [hereinafter *Regulation & Best Practice*] (setting forth the framework in greater detail).

46. See *Guidance on Fracking*, *supra* note 44.

47. *Id.*

48. *Id.*

49. *Id.*

50. See *Regulation & Best Practice*, *supra* note 45.

51. *Id.*

52. *Id.*

53. OFF. UNCONVENTIONAL GAS & OIL (OUGO), <https://www.gov.uk/government/policy-teams/office-of-unconventional-gas-and-oil-ougo> (last visited Mar. 29, 2018).

dorsement of the House of Lords,⁵⁴ the BEIS began awarding licenses with the latest announced on July 25, 2017.⁵⁵

C. EUROPEAN UNION DEVELOPMENTS AND REQUIREMENTS

Recent European Union measures regulate the development of the hydraulic fracturing industry in Europe. The Commission Recommendation of January 22, 2014 sets forth “the minimum principles” applicable to member states that permit hydraulic fracturing, including requirements for assessments of the impact on the environment and human health, a system of permits for exploration and production, and risk assessments of the impact on groundwater or the area of the installation.⁵⁶ These minimum principles also require an environmental (baseline) study on the condition of the installation site prior to operations, installation design and construction that prevents leaks and spills, and development and infrastructure that minimize environmental and health risks.⁵⁷ Further, the measures require companies to use best techniques and practices in their operations, to use minimal water and hazardous chemicals, to monitor environmental impacts regularly, and to guarantee their ability to cover liability for potential hazards.⁵⁸ Finally, the minimum principles require proper administrative oversight by the member states, an examination of the environmental status of the installation site and its surroundings upon closure, and dissemination of information to the public concerning chemical substances and amounts of water used as well as regular and prompt publication of the volume of activity and incidents or violations.⁵⁹

III. RISKS THAT THE HYDRAULIC FRACTURING INDUSTRY PRESENTS

In the United States, the current lack of comprehensive federal regulatory oversight⁶⁰ and the lack of uniformity in state and local regulation⁶¹ leave many communities at risk for water contamina-

54. ECON. AFFAIRS COMM., *THE ECONOMIC IMPACT ON UK ENERGY POLICY OF SHALE GAS AND OIL*, 2013-14, HL (UK), <http://www.publications.parliament.uk/pa/ld201314/ldselect/ldeconaf/172/172.pdf>.

55. *See Licensing Authority*, OIL & GAS AUTHORITY, <https://www.ogauthority.co.uk/licensing-consents/licensing-rounds/> (last updated July 27, 2016).

56. THE EUROPEAN COMM'N, *COMMISSION RECOMMENDATION OF 22 JANUARY 2014 ON MINIMUM PRINCIPLES FOR THE EXPLORATION AND PRODUCTION OF HYDROCARBONS (SUCH AS SHALE GAS) USING HIGH-VOLUME HYDRAULIC FRACTURING* (2014).

57. *Id.*

58. *Id.*

59. *Id.*

60. Brady and Crannell, *supra* note 32, at 43.

61. *Id.* at 53.

tion⁶² and may expose the atmosphere to unacceptable levels of methane.⁶³ As the United Kingdom has limited experience with hydraulic fracturing to release shale gas, it is too early to state with certainty the precise problems that the industry will encounter, although British environmental groups express similar concerns to those in the United States.⁶⁴ While a comprehensive discussion of the environmental and social risks associated with hydraulic fracturing is beyond the scope of this Article, the following summarizes the most serious risks.

A. WATER CONTAMINATION

Much of the criticism of hydraulic fracturing relates to potential contamination of local water supplies.⁶⁵ Depending on the type of rock formation, the EPA has suggested that hydraulic fracturing requires between 50,000 to 350,000 gallons of water for drilling through coal formations and two to five million gallons for horizontal drilling through shale formations.⁶⁶ The so-called “flowback,” i.e., the water and other substances recovered from the well, must be disposed properly.⁶⁷ Concerns have been raised about the “integrity of wellbores, the possibility of leaks through faulty cement casings as the well passes through the water table, and the possibility of migration of gas or contaminants from the fractured well into the drinking water supply.”⁶⁸ Recent studies have documented elevated levels of chemicals such as bromide and radium in treated water from hydraulic fracturing.⁶⁹

In the United States, fluids used in hydraulic fracturing contain approximately 98% to 99.2% water, with the remainder including a combination of chemicals, some of which may be toxic.⁷⁰ U.S. legal

62. GALLEGOS ET AL., *supra* note 5, at 5843.

63. Howarth, *supra* note 6, at 47-50.

64. VERONIKA MOORE, ALISON BERESFORD & BENEDICT GOVE, HYDRAULIC FRACTURING FOR SHALE GAS IN THE UK: EXAMINING THE EVIDENCE FOR POTENTIAL ENVIRONMENTAL IMPACTS 45 (2014), https://www.rspb.org.uk/Images/shale_gas_report_evidence_tcm9-365779.pdf.

65. Schumacher & Morrissey, *supra* note 8, at 243.

66. However, these estimates may overestimate the amount of water required due to improvements in technology. *See generally* Heather Cooley & Kristina Donnelly, *Hydraulic Fracturing and Water Resources: Separating the Frack from the Fiction*, PAC. INST. (2012), https://www.pacinst.org/wp-content/uploads/sites/21/2013/02/full_report25.pdf.

67. Schumacher & Morrissey, *supra* note 8, at 244.

68. *Id.* at 244.

69. *See generally* Nathaniel R. Warner, Cidney A. Christie, Robert B. Jackson & Avner Vengosh, *Impact of Shale Gas Wastewater Disposal on Water Quality in Western Pennsylvania*, 47 ENVTL. SCI. & TECH. 11849 (2013).

70. *Chemical Use In Hydraulic Fracturing*, FRACFOCUS, <http://fracfocus.org/water-protection/drilling-usage> (last visited Mar. 29, 2018).

efforts to address concerns on water quality have largely focused on disclosure.⁷¹ A number of states, including Wyoming, Pennsylvania, Arkansas, Texas, Colorado, New Mexico, Montana, West Virginia, Idaho, and North Dakota have some form of public disclosure requirement for hazardous chemicals. Additionally, FracFocus acts as a national hydraulic fracturing chemical registry.⁷² Managed by the Ground Water Protection Council and Interstate Oil and Gas Compact Commission, FracFocus provides the public information concerning the chemicals used for hydraulic fracturing for particular geographic areas.⁷³ While a focus on disclosure can help raise awareness of potential risks, it has its limitations as a regulatory tool. In other areas of the law, scholars have criticized disclosure-based regulation because it has failed to prevent significant harm.⁷⁴ For example, the securities industry, underpinned by disclosure-based regulation, has been dominated by cyclical financial crises precipitated by corporate behavior that eluded regulators and that were unaddressed by a disclosure-based regime.⁷⁵ Moreover, Professor Jason Schumacher and Professor Jennifer Morrissey argue that “[e]ven where there are disclosure requirements, there are other issues ranging from perceived loopholes in existing regulatory schemes to the ability of state environmental regulators in gas-boom regions to adequately handle the ever-increasing number of permit requests.”⁷⁶

In contrast to the disclosure-based system in the United States, the United Kingdom has taken a stronger regulatory approach to ensuring U.K. water quality. According to a recent House of Lords Economic Affairs Select Committee report, U.K. law and practice should eliminate the main issues that contribute to water contamination given the existence of rules that require the disclosure of chemicals in fracking fluids as well as the prohibition of certain hazardous substances in the hydraulic fracturing process.⁷⁷ Despite the strong approach, the same report conditions its conclusion on the premise that

71. Hydraulic Fracturing on Federal and Indian Lands, 80 Fed. Reg. 16127 (Jun. 24, 2015) (codified at 80 C.F.R. § 3160).

72. FRACFOCUS, *supra* note 70.

73. *Id.*

74. See Paula J. Dalley, *The Use and Misuse of Disclosure as a Regulatory System*, 34 FLA. ST. U. L. REV. 1089, 1091 (2007).

75. See generally Matthew A. Edwards, *Empirical and Behavioral Critiques of Mandatory Disclosure: Socio-Economics and the Quest for Truth in Lending*, 14 CORNELL J.L. & PUB. POL'Y 199 (2005); Stephen M. Bainbridge, *Mandatory Disclosure: A Behavioral Analysis*, 68 U. CIN. L. REV. 1023 (2000); Donald C. Langevoort, *Selling Hope, Selling Risk: Some Lessons for Law from Behavioral Economics About Stockbrokers and Sophisticated Customers*, 84 CAL. L. REV. 627 (1996).

76. Schumacher & Morrissey, *supra* note 8, at 249.

77. ECON. AFFAIRS COMM., *supra* note 54.

regulators must *enforce* these prohibitions so that “hydraulic fracturing fluid poses no risk to groundwater in the U.K.”⁷⁸

Beyond the risk of contamination by flowback and surface water, the integrity of wells has raised concerns among scientists.⁷⁹ In the United States, states generally regulate the integrity of wellbores,⁸⁰ although the industry has developed a number of “best practices” as it increases its self-policing.⁸¹ In the United Kingdom, Professor Richard J. Davies and others report that among the 2,152 onshore hydrocarbon wells drilled onshore between 1902 and 2013, 65.2% are probably not visible because “UK regulations state that, after abandonment, the well should be sealed and cut and the land reclaimed.”⁸² Despite the relatively limited data indicating problems with the integrity of wellbores in the United Kingdom,⁸³ “well integrity failure may be more widespread than the presently limited data show” since “monitoring of abandoned wells does not take place in the UK (or any other jurisdiction) and less visible pollutants such as methane leaks are unlikely to be reported.”⁸⁴

B. NATURAL GAS AND GREENHOUSE EMISSIONS

While natural gas may be widely regarded as a “clean fuel,” it is a fossil fuel and produces carbon dioxide when combusted.⁸⁵ Moreover, leaks during extraction and distribution further contribute to the release of methane and other greenhouse gases into the atmosphere, which is notable, as Professor Robert W. Howarth points out that “[m]ethane is far more effective at trapping heat in the atmosphere than is carbon dioxide, and so even small rates of methane emission can have a large influence on . . . greenhouse gas footprints. . . .”⁸⁶ In addition, the use of drilling equipment involved in well construction and gas extraction as well as emissions from the transport of water

78. *Id.*

79. Richard J. Davies et al., *Oil and Gas Wells and Their Integrity: Implications for Shale and Unconventional Resource Exploitation*, 56 *MARINE & PETROLEUM GEOLOGY* 239, 239 (2014).

80. Schumacher & Morrissey, *supra* note 8, at 244.

81. *Id.* at 245.

82. Davies et al., *supra* note 79, at 252.

83. *Id.* Davies and the others note that “[o]nly [two] wells in the UK have recorded well integrity failure (Hatfield Blowout and Singleton Oil Field) but this figure is based only on data that were publicly available or accessible through UK Environment Agency and only out of the minority of UK wells which were active.” *Id.*

84. *Id.*

85. See generally JOHN BRODERICK ET AL., *SHALE GAS: AN UPDATED ASSESSMENT OF ENVIRONMENTAL AND CLIMATE CHANGE IMPACTS* (2011), <http://www.mace.manchester.ac.uk/media/eps/schoolofmechanicalaerospaceandcivilengineering/newsandevents/news/research/pdfs2011/shale-gas-threat-report.pdf>.

86. Howarth, *supra* note 6, at 47.

necessary for hydraulic fracturing further contribute to airborne pollution.⁸⁷ Moreover, focusing energy policy on natural gas will ultimately detract from the development of renewable energy sources such as solar, wind, and hydroelectric power.

According to Professor Joshua P. Fershee, an examination of practices in the State of North Dakota indicates that “risky portions of the process are not well monitored . . .” as regulators do “not have the resources to conduct the currently expected level of oversight.”⁸⁸ Wells that are idle, abandoned, or orphaned present particularly difficult challenges, especially where the operator has become bankrupt. As discussed above, since few, if any, jurisdictions require the monitoring of abandoned oil and gas wells, leaks of methane and other pollutants are unlikely to be reported.⁸⁹ Current laws are deferential to oil and gas companies and offer little guidance in terms of best practices. Accordingly, poorly regulated-and-monitored operations have the potential to contribute significantly to the emission of greenhouse gases. As Professor Davies and others report, “[i]t is important . . . that the appropriate financial and monitoring processes are in place, particularly after well abandonment, so that legacy issues associated with the drilling of wells for shale gas and oil are minimized.”⁹⁰

C. IMPACT OF RAPID DEVELOPMENT ON LOCAL HOST COMMUNITIES

While many emphasize the economic benefits and reduced environmental damage associated with hydraulic fracturing compared to other forms of carbon fuels, the impact on the local host community can be devastating.⁹¹ Rapid development on local communities without adequate planning and infrastructure may lead to “overburdened transportation and health infrastructure, and disproportionate increases in social problems, particularly in small isolated rural communities”⁹² While increased standards of living among some residents may benefit communities financially, Professor Fershee has argued that a sudden influx of wealth may have an adverse effect on the social fabric of the host communities, creating “boomtown problems”⁹³ with “increased levels of drug use, domestic violence, and prostitution”⁹⁴ as well as “increased incidence of sexually-transmitted

87. Schumacher & Morrissey, *supra* note 8, at 251.

88. Joshua P. Fershee, *North Dakota Expertise: A Chance to Lead in Economically and Environmentally Sustainable Hydraulic Fracturing*, 87 N.D. L. REV. 485, 498 (2011).

89. Davies et al., *supra* note 79, at 252.

90. *Id.*

91. N.Y. STATE DEP'T OF HEALTH, *supra* note 40.

92. *Id.* at 6.

93. *Id.* at 53.

94. Fershee, *supra* note 88, at 494.

diseases . . . [and] acute housing shortages . . .”⁹⁵ Scarcity of housing may exacerbate socioeconomic inequality as it “creates tremendous opportunities for landlords and other landowners, but it creates hardship for many of those not working in the oil industry trying to remain in the region.”⁹⁶ Local communities have experienced “significant infrastructure damage in some localities due to increased truck traffic . . .”⁹⁷ as well as traffic jams and dramatic increases in road accidents and fatalities.⁹⁸ In the United Kingdom, legal title to mineral rights may prevent many local communities from directly benefiting from exploitation of shale gas deposits, although the government has introduced guidelines to address such concerns, such as authorizing local payments for drilling in those areas.⁹⁹

D. OTHER ISSUES

Stakeholders have raised additional concerns including seismic activity and land-use issues. Although the limited amounts of water used in hydraulic fracturing are insufficient to produce significant tremors, injection of liquid waste may cause deep underground pressure that pushes “existing faults to ‘slip’ in response to changes in pressure, particularly as higher pressures are required over time to inject the waste as the underground reservoir fills up.”¹⁰⁰ Despite the lack of consensus, Professor Schumacher and Professor Morrissey note that “there is mounting evidence of increased, and possibly induced, seismic events in areas where natural gas production has increased and . . . which also involves the injection of large volumes of fluids into the ground.”¹⁰¹

IV. SHAREHOLDER VALUE THEORY/STAKEHOLDER THEORY DEBATE AND ITS IMPACT

While the complex patchwork of local and national laws and rules provide various levels of protection for local communities, exposing some to greater risks than others, some aspects of the law are also complicit in creating potentially greater risks and more widespread harm. In particular, the law promotes corporate interests above those of other stakeholders. This Article will initially address the overall threat of the systemic problems created by law itself and then addresses specific threats in particular.

95. N.Y. STATE DEP'T OF HEALTH, *supra* note 40, at 53.

96. Fershee, *supra* note 88, at 493.

97. N.Y. STATE DEP'T OF HEALTH, *supra* note 40, at 55.

98. Fershee, *supra* note 88, at 494.

99. *Facts About Fracking*, *supra* note 12, at 8.

100. Schumacher & Morrissey, *supra* note 8, at 252-53.

101. *Id.* at 253.

In the absence of coordinated action to establish effective, comprehensive regulations for hydraulic fracturing, it is fundamental that corporate law and the judiciary balance economic considerations and sustainable behavior by fracking firms. Yet, the Anglo-American concept of a corporation is dominated by shareholder value theory¹⁰² that inadequately takes into account the impact of corporations on the environment, the local community, and other stakeholders.¹⁰³ Alternative models that seek to promote CSR may play an important role in managing such externalities. Nonetheless, the law continues to limit the positive impact CSR may have since it has institutionalized shareholder value theory. The following provides an overview of the theoretical concepts of corporations dominant in law, followed by an examination of the limits of these models.

Since the 1930s, legal scholars¹⁰⁴ and economists¹⁰⁵ have attempted to explain the organization and purpose of firms, developing various models that largely focus on the rights and duties of shareholders and directors. At the heart of these models lies the basic question of the purpose of a corporation. Among the theories focusing on the relationship between shareholders and management, two competing models have dominated scholarship, namely models that focus on shareholder primacy/shareholder value maximization and those that focus on stakeholder theory.¹⁰⁶ More recently, models that stress CSR have been promulgated, yet they have had only a limited impact on the law and the judiciary. The following discussion focuses on the shareholder value theory while subsequent portions of this Article address the necessity to incorporate CSR into the law.

Based on the assumptions of the “law and economics movement” that originated in the United States¹⁰⁷ and spread to Europe,¹⁰⁸ the shareholder value theory has dominated the economic, financial, and

102. See generally Stephen M. Bainbridge, *Community and Statism: A Conservative Contractarian Critique of Progressive Corporate Law Scholarship*, 82 CORNELL L. REV. 856 (1997).

103. Kent Greenfield, *New Principles for Corporate Law*, 1 HASTINGS BUS. L.J. 87, 91 (2005).

104. See generally E. Merrick Dodd, Jr., *For Whom are Corporate Managers Trustees?*, 45 HARV. L. REV. 1145 (1932); A.A. Berle, Jr., *For Whom Corporate Managers Are Trustees: A Note*, 45 HARV. L. REV. 1365 (1932).

105. Ronald Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937).

106. A. Keay, *Getting to Grips with the Shareholder Value Theory in Corporate Law*, 39 COMMON L. WORLD REV. 358, 358 (2010).

107. See generally Krešimir Piršl, *Trends, Developments, and Mutual Influences Between United States Corporate Law(s) and European Community Law(s)*, 14 COLUM. J. EUROPEAN L. 277, 278 (2007-2008).

108. Klaus J. Hopt, *Comparative Company Law*, in OXFORD HANDBOOK OF COMPARATIVE LAW 1161, 1184-86 (Mathias Reimann & Reinhard Zimmermann eds., 2006).

legal¹⁰⁹ understanding of the corporation. The theory's roots lie in the pioneering work of Professor Adolf Berle and Professor Gardiner Means,¹¹⁰ which relies on Berle's depiction of managers as the trustees of a company's shareholders and therefore required to act for the benefit of the shareholders.¹¹¹ Building on these assumptions, Professor Michael Jensen and Professor William Meckling's seminal work, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*¹¹² depicts the shareholders and management as rational economic actors who contract with one another.¹¹³ Shareholder value theory identifies the purpose of a corporation as explained by Professor Milton Friedman in his frequently quoted statement: "There is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition, without deception or fraud."¹¹⁴ Professor Jonathan Macey also notes:

Under traditional state and corporate law doctrine, officers and directors of both public and closely held firms owe fiduciary duties to shareholders and to shareholders alone. Directors and officers are legally required to manage a corporation for the exclusive benefit of its shareholders, and protection for other sorts of claimants exists only to the extent provided by contract.¹¹⁵

The interests of remaining stakeholders, including employees, the local community, and others affected by corporate decisions are secondary to shareholders, who, in the view of shareholder value theory, have the "greatest stake in the outcome of corporate decision-making."¹¹⁶ According to such logic, it follows, as explained by Professor Robert Sprague, that "[s]hareholders invest . . . with the understanding that managers will strive to maximize shareholder value"¹¹⁷

109. See generally Henry Hansmann & Reinier Kraakman, *The End of History for Corporate Law*, 89 GEO. L.J. 439, 439 (2001) ("There is no longer any serious competitor to the view that corporate law should principally strive to increase long-term shareholder value.").

110. See generally ADOLF A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* (1932).

111. Adolf A. Berle, *Corporate Powers as Trust*, 44 HARV. L. REV. 1049, 1064 (1931).

112. Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976).

113. *Id.* at 308-09.

114. MILTON FRIEDMAN, *CAPITALISM AND FREEDOM* 124-33 (40th ed. 1962).

115. Jonathan R. Macey, *An Economic Analysis of the Various Rationales for Making Shareholders the Exclusive Beneficiaries of Corporate Fiduciary Duties*, 21 STETSON L. REV. 23, 23 (1991).

116. *Id.* at 26.

117. Robert Sprague, *Beyond Shareholder Value: Normative Standards for Sustainable Corporate Governance*, 1 WM. & MARY BUS. L. REV. 47, 50 (2010).

Later research has defended managerial discretion against shareholder directives, arguing that management requires the business judgment rule (“BJR”) in order to operate effectively.¹¹⁸ According to the BJR, broad discretion should be granted to the board of directors in evaluating its decisions on *behalf* of the corporation. In addition to the academic theoretical basis, the law and economics movement has also pointed to seminal U.S. cases such as *Dodge v. Ford*,¹¹⁹ *Schlensky v. Wrigley*,¹²⁰ and *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*¹²¹ for authority to support the assumption that companies must maximize immediate shareholder value at the expense of long-term value. The Delaware courts, the most influential judiciary in U.S. corporate-law matters, has also adopted a shareholder-centric model, depicting directors as agents of the shareholders.¹²² Moreover, as Professor Boot and Professor Macey point out, “[t]he U.S. system relies on capital markets, which pressure corporate managers to deliver profits.”¹²³

While the majority of corporate scholars depict the corporation exclusively from an economic perspective,¹²⁴ Professor Reza Dibadj argues that “the laissez-faire law and economics approach . . . rests on a remarkably shaky foundation.”¹²⁵ Scholarship that depicts corporations as nothing more than “legal fictions which serves as a nexus for . . . contracting relationships”¹²⁶ fails to recognize the roles such corporations play in society and the manner in which their stakeholders exert influence over them. Professor Leonard I. Rotman aptly notes that “[a]lthough the apparent simplicity and definiteness of the shareholder primacy model is attractive, it drastically oversimplifies matters.”¹²⁷ In particular, cases cited in support of shareholder value theory, such as *Dodge*, are not “as absolutely dedicated to the advancement of shareholder wealth maximisation as observers have generally posited.”¹²⁸ Professor Kent Greenfield notes that it is “truly awkward . . . to assert that corporate managers best advance societal well-

118. See generally Stephen M. Bainbridge, *Director Primacy: The Means and Ends of Corporate Governance*, 97 Nw. U. L. REV. 547 (2003).

119. 170 N.W. 668 (Mich. 1919).

120. 237 N.E.2d 776 (Ill. App. Ct. 1968).

121. *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*, 506 A.2d 173 (Del. 1986).

122. *Blasius Indus., Inc. v. Atlas Corp.*, 564 A.2d 651, 663 (Del. Ch. 1988).

123. Arnould W. A. Boot & Jonathan R. Macey, *Monitoring Corporate Performance: The Role of Objectivity, Proximity, and Adaptability in Corporate Governance*, 89 CORNELL L. REV. 356, 356-93 (2004).

124. Ian B. Lee, *Citizenship and the Corporation*, 34 L. & SOC. INQUIRY 129, 313 (2009).

125. Reza Dibadj, *Delaying Corporate Law*, 34 HOFSTRA L. REV. 469, 477 (2005).

126. Jensen & Meckling, *supra* note 112, at 311.

127. Leonard I. Rotman, *Debunking the “End of History” Thesis for Corporate Law*, 33 B.C. INT’L & COMP. L. REV. 219, 270 (2010).

128. *Id.* at 230.

being by ignoring it.”¹²⁹ Simply put, the outdated economic depiction of corporations is unconvincing in its notion that a corporation is nothing but a “nexus of contracts”; instead, corporations under the law are legal creatures that enjoy both rights and responsibilities. Moreover, Professor Judd Sneirson argues that “[n]o corporate law statute or court decision explicitly requires firms to adhere to the shareholder primacy view.”¹³⁰ Accordingly, shareholder value theory fails to adequately address corporations as legal persons who enjoy similar rights to natural persons and therefore should presumably have similar obligations and duties to those of natural persons. A failure to address systematic shortcomings in corporate law institutionalizes an inequality between natural persons and corporations, encouraging recklessness and unreasonable risks by corporate boards. In particular, “a fixation on shareholder interests will result at times in managerial decisions that are overly risky from society’s perspective.”¹³¹ Accordingly, shareholder value theory ignores the externalities that become a public cost.

The interaction of tort, criminal, and corporate law raises further problems. In particular, although corporations may be held liable for tortious conduct, their culpable behavior is the result of individuals, and penalties routinely affect the corporation as a whole rather than the culpable individuals. As Professor Robert J. Rhee succinctly notes: “Tort law finds liability; corporation law excuses it.”¹³² Among the problems with this remedy, two in particular stand out. First, the stakeholders of the corporation all suffer from the harm caused by the perpetrators, who are often protected from personal harm. Second, the concept of limited liability may encourage management to engage in “excessive levels of risk-taking”¹³³ that it would not pursue as individual persons. Given the fundamentally different nature of tort and corporate law, “directors must not be held liable for negligent, stupid, careless, unlucky, or egregious decisions in spite of any visceral impulse to blame and levy liability for a bad outcome.”¹³⁴ As company charters routinely provide that officers and directors will be indemnified from liability of corporate actions, there is no adequate means to hold any natural person accountable for harm caused by the corporation. This anomaly elevates corporate boards to a position no natural

129. Greenfield, *supra* note 103, at 100 (emphasis in the original).

130. Judd F. Sneirson, *The Sustainable Corporation and Shareholder Profits*, 46 WAKE FOREST L. REV. 541, 550 (2011).

131. Greenfield, *supra* note 103, at 101.

132. Robert J. Rhee, *The Tort Foundation of Duty of Care and Business Judgment*, 88 NOTRE DAME L. REV. 1139, 1141 (2013).

133. Virginia Harper Ho, *Of Enterprise Principles and Corporate Groups: Does Corporate Law Reach Human Rights?*, 52 COLUM. J. TRANSNAT'L L. 113, 136 (2013).

134. Rhee, *supra* note 132, at 1157.

person enjoys: corporations routinely profit but do not suffer from risky behavior. Accordingly, high-risk activities may benefit the corporation in the short-term if successful but result in harmful externalities for other stakeholders. However, board decision-making may involve a myriad of issues that include essentially corporate matters, such as mergers and acquisitions, but also may include far-reaching policies and actions that affect the environment, local communities, and other stakeholders. Increasingly, scholars are calling for greater accountability for board decision-making with respect to human rights issues; similarly, the potential harm associated with hydraulic fracturing deserves higher accountability. In terms of criminal law, some jurisdictions, including the United Kingdom, have extended elements of the criminal law to influence corporate behavior, such as the concept of corporate manslaughter;¹³⁵ however, neither the law nor the judiciary subscribes the same ethical obligations to corporate entities that routinely attach to the concept of citizenship.

In addition, shareholder value theory has not resolved the agent-principal relationship whereby management acts on behalf of the shareholders.¹³⁶ While the problems of this relationship have been well rehearsed and are beyond the scope of this research, it is recognized that shareholders have limited scope for directing the board, allowing the board wide discretion to follow agendas that do not necessarily maximize shareholder value. In the United States, the law and the judiciary further complicate this dilemma through the broad application of the BJR, which protects the decisions of the board from shareholder challenges as long as the board is able to identify a business reason for taking such action.¹³⁷ According to the BJR, a court will not question the decisions of a company's director if they were made in good faith, with the care of a reasonably prudent person, and in the belief the director was acting in the company's best interest.¹³⁸ As a result, corporate entities and their managers are insulated routinely from liability for decisions and policies that may adversely affect shareholders as well as the local community and other stakeholders.¹³⁹ Professor Franklin A. Gevurtz has noted that the Delaware courts have applied "the [BJR] in a highly deferential manner to exonerate directors"¹⁴⁰ Further, Professor Dibadj has

135. Celia Wells, *Corporate Criminal Liability*, CRIM. L. REV. 849, 853-62 (2014).

136. See generally Jensen & Meckling, *supra* note 112.

137. Dibadj, *supra* note 125, at 484-85.

138. Sean J. Griffith, *Good Faith Business Judgment: A Theory of Rhetoric in Corporate Law Jurisprudence*, 55 DUKE L. REV. 1, 9-11 (2005).

139. See generally Sneirson, *supra* note 130, at 548-54.

140. Franklin A. Gevurtz, *The Globalization of Corporate Law: The End of History or A Never-Ending Story?*, 86 WASH. L. REV. 101, 144 (2011).

noted that “wide management discretion” under the BJR has led to “results [that] have been, to put it kindly, less than stellar.”¹⁴¹ A broader reading of the shareholder value theory should recognize that concern for other stakeholders may significantly maximize shareholder value, especially in the long-term. Moreover, Professor Sneiderman argues that corporate management pursuing policies that consider a wide variety of stakeholders have little to fear in terms of litigation since the broadness of the BJR means that “company decisions, including sustainability-motivated decisions that depart from a profit-maximizing objective, will withstand . . . challenges.”¹⁴² Research that dismisses social issues is at best misleading and at worst a red herring for courts that mechanically apply the BJR. The fundamental problem with a narrow reading of the shareholder value theory is that it fails to recognize the important impact that social factors may have on shareholder value maximization and the destructive impact of applying a broad BJR. According to Professor Lee, “[t]he best interests of the corporation is evidently not a formula that can be applied mechanically so as to yield a unique, incontestably correct decisional outcome”¹⁴³ Finally, the law and economics movement’s narrow reading of case law inaccurately circumscribes the actions of corporations as short-term profit maximization is not actually required by the corporate law.¹⁴⁴ Above all, a growing body of research argues that corporate law does not in fact “[impose] a legal requirement that corporate fiduciaries maximize shareholder wealth and eschew sustainable and socially responsible business practices.”¹⁴⁵

In the United Kingdom, the common law has also followed a philosophy of “shareholder primacy” when examining the nature of companies and the role of officers and directors. Seminal case law, including *Percival v. Wright*,¹⁴⁶ has defined the relationship between shareholders and the board of directors. Essentially, the common law duties dictate that directors are to manage the company in the interests of all shareholders.¹⁴⁷ Directors’ duties are to the company, not to individual shareholders or others, with the objective of maximizing

141. Dibadj, *supra* note 125, at 515.

142. Sneiderman, *supra* note 130, at 553.

143. Lee, *supra* note 124, at 149.

144. See Lynn Stout, *Why We Should Stop Teaching Dodge v. Ford*, 3 VA. L. & BUS. REV. 163 (2008). Professor Stout notes: “In sum, whether gauged by corporate charters, state corporation codes, or corporate case law, the notion that corporate law as a positive matter ‘requires’ companies to maximize shareholder wealth turns out to be spurious.” *Id.* at 172.

145. Sneiderman, *supra* note 130, at 549.

146. [1902] 2 EWHC (ch) 421 (Eng.).

147. Daniel Attenborough, *How Directors Should Act When Owing Duties to the Companies’ Shareholders: Why We Need to Stop Applying Greenhalgh*, 20 INT’L COMPANY & COM. L. REV. 339, 339 (2009).

shareholder wealth.¹⁴⁸ However, through the Companies Act 2006, Parliament broadened the duties of directors by codifying the common law rules on directors' duties in sections 170 to 177 as well as introducing the concept of "enlightened shareholder value." Under this approach, directors are "required to promote the success of the company in the collective best interest of the shareholders, but in doing so they will have to have regard to a wider range of factors, including the interests of employees and the environment."¹⁴⁹ As Professor Andrew Keay points out:

[T]he shareholder value theory does not provide any consistent definition, [and] even though it gives the connotation of being an objective criterion, it is malleable and can mean many different things, and can be used to support or challenge "any management action by manipulating either the test of profit maximization or the 'facts' to which the test is applied."¹⁵⁰

Given the shortcomings of shareholder value theory, a broad range of approaches which advocate CSR has emerged.¹⁵¹ Such models have provided more sustainable solutions and addressed the deficiencies of shareholder value theory. At the international level, the United Nations Global Compact¹⁵² and the Global Reporting Initiative¹⁵³ are but two examples of supranational approaches to engage "participants from business, community, labor, academic, and professional institutions . . . to demonstrate organizational commitment to sustainable business practices."¹⁵⁴ Nonetheless, efforts to impose such obligations through CSR initiatives often flounder as such are frequently based in aspirational codes of conduct or too general as to be required by the law or the courts. Although an emphasis on CSR can have a positive impact on businesses and society, Professor Gail Henderson points out:

[T]here are . . . limits on what this particular form of private transnational regulation can achieve[, and] . . . [s]ubstantial

148. *Id.*

149. 6 June 2006, Parl Deb HC (2006) col. 125 (UK).

150. Keay, *supra* note 106, at 376-77 (citing G. Frug, *The Ideology of Bureaucracy in American Law*, 97 HARV. L. REV. 1276, 1311 (1984)).

151. John Elkington's "triple bottom line" approach has been particularly influential in reorienting businesses to consider economic, environmental, and social justice factors. See JOHN ELKINGTON, *CANNIBALS WITH FORKS: THE TRIPLE BOTTOM LINE OF 21ST CENTURY BUSINESS 2* (reprinted ed. 2002).

152. UNITED NATIONS GLOBAL COMPACT, <https://www.unglobalcompact.org/> (last visited Sept. 17, 2017).

153. See ABOUT GRI, <https://www.globalreporting.org/information/about-gri/Pages/default.aspx> (last visited Sept. 17, 2017).

154. Kristen Rice, *Freezing to Heat the Future: Streamlining the Planning and Monitoring of Arctic Hydrocarbon Development*, 24 COLO. NAT. RES., ENERGY & ENVTL. L. REV. 391, 414 (2013) (footnotes omitted).

improvements in corporations' environmental performance will come about only by focusing on the source of the problem—corporations themselves—and imposing the legal obligation to take into account environmental factors on corporate boards of directors¹⁵⁵

In addition, Professor Cynthia A. Williams queries whether “voluntary initiatives can fully solve concerns about corporate social accountability, or, rather, whether they are primarily a strategy to deflect mandatory regulation . . . [requiring] higher standards”¹⁵⁶ Against these concerns, the remainder of this Article examines possible approaches to enhancing corporate sustainability in the hydraulic fracturing industry.

V. RECOMMENDATIONS FOR ADDRESSING PROBLEMS FACING THE INDUSTRY WITH RESPECT TO DEFICIENCIES IN THE LAW

Models that stress shareholder value maximization will encourage corporations to pursue shale gas with the minimum legal standards in order to maximize shareholder profits. Current regulations do not adequately protect communities from the externalities caused by hydraulic fracturing. Therefore, this Article argues for a reorientation of the assumptions of shareholder value theory to include consideration of other factors and show more responsiveness to CSR concerns. In particular, this Article argues that: (1) focusing on corporate governance guidelines could supplement inadequate government regulation; (2) modern standards of citizenship should be extended to corporations as entities currently enjoying the rights but not obligations of legal persons; and (3) engaging hydraulic fracturing companies with local communities can build trust and minimize future risks. Through promoting corporate governance initiatives, CSR charters, engagement with the local community and other stakeholders, the hydraulic fracturing industry could help supplement the regulatory lacunae and help alleviate the concerns raised above.

A. FOCUSING ON CORPORATE GOVERNANCE GUIDELINES COULD SUPPLEMENT INADEQUATE GOVERNMENT REGULATION

Recent research has shown that just twenty corporate entities have been responsible for almost thirty percent of greenhouse gas

155. Gail E. Henderson, *Making Corporations Environmentally Sustainable: The Limits of Responsible Investing*, 13 GERMAN L.J. 1412, 1415 (2012).

156. Cynthia A. Williams, *Civil Society Initiatives and “Soft Law” in the Oil and Gas Industry*, 36 N.Y.U. J. INT’L L. & POL’Y 457, 462 (2004).

emissions for the period 1751-2010.¹⁵⁷ These corporations are bound into a web of various stakeholders, including shareholders, employees, management, customers, the local community, governments, and other individuals and groups affected by the actions of these corporations. While traditional notions of corporations place the maximization of wealth as the basic purpose of a corporation as discussed above,¹⁵⁸ multinational corporations are under increasing pressure from stakeholders to behave ethically and adopt sustainable policies.¹⁵⁹ Scholars have wrestled with the question of enhancing corporate-law sustainability, with Professor Klaus J. Hopt pointing out that requiring sustainability as a legal requirement would “disrupt central tenets of modern corporate law” and “would also be difficult to enforce”¹⁶⁰ Therefore, reforms should include measures that are more likely to be effective, such as encouraging adherence to corporate governance codes as well as other industry codes of conduct.

Corporate governance broadly describes efforts to promote transparency and responsibility in the way companies are controlled and directed.¹⁶¹ The primary goals of good corporate governance include enhancing the efficiency, transparency, and accountability of companies. International corporate governance standards, such as those of the Organization for Economic Cooperation and Development’s Principles of Corporate Governance (“OCED”),¹⁶² are a form of “soft” law, formulated upon the recommendations of public and private actors. Corporate governance guidelines may become binding through either the adoption into law by states or the listing requirements of stock exchanges.¹⁶³ For example, the New York Stock Exchange has specific corporate governance standards required of its listed corporations.¹⁶⁴ If these corporations fail to meet the requirements, they are

157. Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010*, 122 CLIMATE CHANGE 229, 237 (2014).

158. Sneirson, *supra* note 130, at 548 (“[T]he conventional view in law and business [is] that corporations are to be managed for the sole purpose of maximizing shareholder profits.”).

159. Williams, *supra* note 156, at 466-70.

160. Snieron, *supra* note 130, at 557.

161. Klaus J. Hopt, *Comparative Corporate Governance: The State of the Art and International Regulation*, 59 AM. J. COMP. L. 1, 6-7 (2011).

162. OECD, PRINCIPLES OF CORPORATE GOVERNANCE, <http://www.oecd.org/corporate/principles-corporate-governance.htm> (last visited Sept. 17, 2017).

163. Hopt, *supra* note 161, at 14-15.

164. N.Y. STOCK EXCH., NEW YORK STOCK EXCHANGE LISTED COMPANY MANUAL § 303A (2013), <http://nysemanual.nyse.com/LCMTTools/PlatformViewer.asp?selectednode=chp%5F1%5F4%5F3&manual=%2F1cm%2Fsections%2F1cm%2Dsections%2F>.

subject to delisting,¹⁶⁵ which could have a devastating impact on their stock value. While corporate governance standards initially focused on the relationship between management and shareholders, ethical concerns increasingly affect the nature of corporate governance standards. Similarly, corporate governance standards concerning fracking could set guidelines “to minimize risk, mitigate harms, and maximize benefits in pursuit of long-term growth and prosperity.”¹⁶⁶ While such standards could not replace national and local laws and regulations, such private standards would serve not only to self-regulate the main contributors to climate change but would also provide standards of best practices that would encourage oil and gas companies to seek the common good while identifying economically viable innovations to address climate change.

In addition, the law should work to recognize and improve best standards formulated by the hydraulic fracturing industry. For example, the American Petroleum Institute (“API”)¹⁶⁷ has formulated a number of codes of practice that comprehensively address practices in the energy industry, including fracking. While critics may argue that the API’s standards focus on the interests of the energy companies at the expense of other stakeholders, its members, representing “producers, refiners, suppliers, pipeline operators and marine transporters”¹⁶⁸ nonetheless possess the technical expertise to formulate safe and effective practices. International guidelines, such as the Guidelines for Multinational Enterprises promulgated by the OCED, address a wide range of ethical issues related to international businesses.¹⁶⁹ Yet, such guidelines depend on multinational cooperation and ultimately on the willingness of corporations to adhere to such ethical guidelines. International standards often set general aspirational goals and cannot fundamentally alter the concept and the personality of a corporation in a particular jurisdiction. Despite the weaknesses of disclosure as a regulatory system, further mandatory and voluntary disclosure standards should be encouraged.

While purely voluntary codes of conduct are desirable, Professor Sneirson argues that “[a] middle ground between mandatory reforms and voluntary action can work to establish the suggested behaviors as new norms supporting sustainability and exert subtle pressure on

165. See generally Andreas Charitou, Christodoulos Louca & Nikos Vafeas, *Boards, Ownership Structure, and Involuntary Delisting from the New York Stock Exchange*, 26 J. ACCT. & PUB. POL’Y 249 (2007).

166. Fershee, *supra* note 88, at 487.

167. See generally ENERGY API, <http://www.api.org> (last visited Sept. 17, 2017).

168. ENERGY API, ORGANIZATION, <http://www.api.org/globalitems/globalheaderpages/about-api/api-overview> (last visited Sept. 17, 2017).

169. ORG. FOR ECON. CO-OPERATION & DEV., OECD GUIDELINES FOR MULTINATIONAL ENTERPRISES (2011), <http://dx.doi.org/10.1787/9789264115415-en>.

firms”¹⁷⁰ Accordingly, mechanisms could require the adoption of sustainability standards much like those required under securities laws in the United States and the United Kingdom with respect to corporate codes of conduct,¹⁷¹ allowing businesses to still “pursue financial goals” but “treading as lightly as possible on the earth and its natural resources” while “supporting . . . local communities”¹⁷²

Considering the U.K. Corporate Governance Code “comply or explain” requirements for corporate governance standards,¹⁷³ the U.S. Sarbanes Oxley’s code of ethics rules,¹⁷⁴ or the U.S. Dodd-Frank’s conflict minerals disclosure requirements,¹⁷⁵ similar mechanisms to promote sustainable behavior could be adapted to the hydraulic fracturing industry. In particular, these could require companies engaged in hydraulic fracturing to publicly disclose their due diligence, engagement with local communities, adherence to highest industry standards, and commitment to monitoring the safety of their operations during development, extraction, and post-production. Not only would such proposals help reduce the detrimental impact on local communities and the environment, these measures would also allow companies to publicly document their adherence to best practices and industry standards, thereby reducing possible liability for unforeseen damage. Corporate governance standards themselves are far from a panacea; indeed, their effectiveness relies on “a balanced interplay between distinct internal and external control devices.”¹⁷⁶ However, they provide a concrete enforcement mechanism that has been effective in other areas of the law.

B. MODERN STANDARDS OF CITIZENSHIP SHOULD BE EXTENDED TO CORPORATIONS AS ENTITIES CURRENTLY ENJOYING THE RIGHTS BUT NOT OBLIGATIONS OF LEGAL PERSONS

Many companies recognize that a number of considerations other than maximizing short-term profits actually contribute to their medium- and long-term viability. Further, the concept of CSR occupies an increasingly important role in affecting corporate behavior, with a

170. Sneirson, *supra* note 130, at 557-58.

171. *Id.* at 557.

172. *Id.* at 543.

173. Marc T. Moore, *The End of “Comply or Explain” in UK Corporate Governance?*, 60 N. IR. LEGAL Q. 85, 86 (2009).

174. Public Company Accounting Reform and Investor Protection Act, 15 U.S.C. § 7264 (2002).

175. Dodd-Frank Wall Street Reform and Consumer Protection Act, 15 U.S.C. § 78m(p) (2010).

176. Klaus J. Hopt & Patrick C. Leyens, *Board Models in Europe—Recent Developments of Internal Corporate Governance Structures in Germany, the United Kingdom, France, and Italy*, 1 EUROPEAN COMPANY & FIN. L. REV. 135, 139 (2004).

growing interest in “socially responsible conduct”¹⁷⁷ and greater engagement with stakeholders. Against this background, there is an unprecedented opportunity to engage multinational corporations and their stakeholders in efforts to develop other forms of effective and sustainable governance. Corporate law sets forth the manner in which legal entities enjoy legal personhood with accompanying rights and responsibilities. The United States Supreme Court has long recognized that “[a] corporation is an artificial being, indivisible, intangible, and existing only in contemplation of law.”¹⁷⁸ As discussed above, the dominant view in the legal corporate academy suggests that such legal existence should be blind to any obligation beyond the maximization of shareholder wealth.

Indeed, limited liability companies offer significant protection for corporate entities although the concept poses a significant obstacle to “accountability for human rights impacts”¹⁷⁹ However, in *Kiobel v. Royal Dutch Petroleum Co.*,¹⁸⁰ the United States Supreme Court seemed to suggest that corporations could be liable for violations of human rights violations.¹⁸¹ According to Professor Franklin A. Gevurtz, “if a company’s production significantly damages the environment, one cannot measure the impact of the company’s activity on the total wealth of society without subtracting the damage to the environment in the calculation.”¹⁸² Beyond the considerations above, the legal personality of corporations and the judiciary’s preference for imposing a shareholder value theory should be addressed in legal reforms, which modify the legal personality of corporations to take into account the externalities they cause as well as reduce the excessive risks boards take as a result of limited liability. In the United Kingdom, section 172 of the Companies Act of 2006 requires directors to act with an “enlightened shareholder value” approach; however, much discretion is left to the “director of a company. . . [to] act in a way he considers, in good faith, would be most likely to promote the success of

177. Joshua A. Newberg, *Corporate Codes of Ethics, Mandatory Disclosure, and the Market for Ethical Conduct*, 29 VT. L. REV. 253, 287 (2005).

178. *Trs. of Dartmouth Coll. v. Woodward*, 17 U.S. (4 Wheat.) 518, 636 (1819).

179. Ho, *supra* note 133, at 161.

180. 569 U.S. 108 (2014).

181. *Kiobel v. Royal Dutch Petrol. Co.*, 569 U.S. 108, 110 (2014).

182. Franklin A. Gevurtz, *Using Comparative and Transnational Corporate Law to Teach Corporate Social Responsibility*, 24 PAC. McGEORGE GLOBAL BUS. & DEV. L.J. 39, 40 (2011). Professor Gevurtz further explains:

[T]o assume that corporate law—the laws governing the selection, duties, and liabilities of those in charge of corporations and of the owners of the corporation—is irrelevant to these concerns is a bit like assuming that the laws governing the election of representatives in a democracy are irrelevant to the policies the government will ultimately follow.

Id. (citing Joseph E. Stiglitz, *Multinational Corporations: Balancing Rights and Responsibilities*, 101 AM. SOC’Y INT’L L. 3, 45-46 (2007)).

the company. . . .”¹⁸³ Without further specificity, it is unlikely that the full range of shareholder interests would be considered at the same level as maximizing profit for shareholders. Further legal reforms are necessary to remedy this deficiency.

C. ENGAGING HYDRAULIC FRACTURING COMPANIES WITH LOCAL COMMUNITIES CAN BUILD TRUST AND MINIMIZE FUTURE RISKS

According to Professor Schumacher and Professor Morrissey, high profile environmental damage has “fueled public suspicion of the oil and gas industry,” which has largely responded by depicting “these incidents as highly unusual” while the “public however, perceives the industry as secretive, resistant to reasonable safeguards and oversight, and callous toward local populations.”¹⁸⁴ In particular, firms engaged in hydraulic fracturing “must be publicly transparent about managing their environmental footprint and social impacts, and engage with key community stakeholders to earn and maintain their social license to operate” by disclosing the actions they take “to minimize risks, acknowledg[ing] . . . challenges and failures, and clearly defin[ing] steps to continually improve operations.”¹⁸⁵ Finally, Professor Henderson points out that “making corporate activity environmentally sustainable is less a matter of blanket prohibitions or universal standards of conduct and more a matter of managing the environmental impacts of economic activity on a case-by-case basis.”¹⁸⁶

The United Kingdom framework promotes the engagement of hydraulic fracturing companies with local communities in both the planning and development stages.¹⁸⁷ Additionally, U.K. practices entitle local communities that host hydraulic fracturing sites to £100,000 worth of benefits as well as one percent of revenues from production.¹⁸⁸ While there has been criticism of these financial incentives,¹⁸⁹ they nonetheless represent a tangible mechanism whereby local communities may benefit financially from hydraulic fracturing operations.¹⁹⁰ Nonetheless, monitoring of these commitments and the

183. United Kingdom Companies Act 2006, c. 2 (UK).

184. Schumacher & Morrissey, *supra* note 8, at 254-55.

185. *Extracting the Facts: An Investor Guide to Disclosing Risk from Hydraulic Fracturing Operations*, INTERFAITH CTR. ON CORP. RESP. 3, <http://www.iehn.org/documents/frackguidance.pdf> (last visited Mar. 30, 2018).

186. Henderson, *supra* note 155, at 1424-25.

187. *See Guidance on Fracking*, *supra* note 44.

188. *Id.*

189. *See generally* Damien Short & Anna Szolucha, *Fracking Lancashire: The Planning Process, Social Harm and Collective Trauma*, GEOFORUM (Mar. 17, 2017), https://ac.els-cdn.com/S0016718517300519/1-s2.0-S0016718517300519-main.pdf?_tid=535dd254-046c-11e8-86d3-00000aab0f6b&acdnat=1517172574_2ecc6b273e0a49904403e803872d0f3b.

190. *See Guidance on Fracking*, *supra* note 44.

activities of hydraulic fracturing firms in local communities will actually identify whether this level of support is adequate in light of the potential negative impact on local communities.¹⁹¹ Indeed, such monitoring is required under relevant U.K. practices. Further, the U.K. government has expressed a commitment to creating a shale wealth fund for the benefit of host communities of hydraulic fracturing activities.¹⁹² However, the standards and commitments are premised on voluntary charters; therefore, it is too early to predict their effectiveness.¹⁹³ If successful, they may represent a set of specific actions that may more effectively engage host communities. As the true impact of these initiatives become known, host communities across the United States should have the opportunity to demand similar commitments from hydraulic fracturing firms operating in their local areas. Nevertheless, even if these initiatives increase the engagement of local communities while rewarding them financially, they cannot substitute for a reorienting of the expectations of corporate citizenship as argued in this Article.

VI. CONCLUSION

Current laws and regulations are inadequate to ensure sustainability and safety in the hydraulic fracturing industry, and effective governance in the area is necessary to protect against unintended consequences as well as to encourage promising innovation. While there is certainly a role for governments and other authorities to improve effective governance mechanisms, corporate law itself should also be an area of reform. A substantial body of research identifies the limits of the shareholder value theory, arguing instead that a stakeholder approach can maximize shareholder returns while providing sustainability for companies, their stakeholders, and the environment. The risks associated with hydraulic fracturing illustrate the importance of reorienting legal scholarship away from the dominant shareholder value theory to more sustainable models. Against these concerns, this Article calls for a fundamental reform of the citizenship of corporations, which could help ensure safe, sustainable energy production for both shareholders and other stakeholders.

191. *Id.*

192. *Id.*

193. See generally Matthew Cotton, *Fair Fracking? Ethics and Environmental Justice in United Kingdom Shale Gas Policy and Planning*, 22 *LOC. ENV'T* 185 (2017).