

The Sufficiency of Natural Gas Infrastructure Security and How the Legal Profession Can Help

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INTRODUCTION

Today it is conventional wisdom that the “unconventional” natural gas revolution changed the trajectory of the world.¹ Once considered a depleting American resource, total American proven natural gas reserves have nearly doubled in the last decade.² In 2017, the United States’ natural gas production equaled 641.7 million metric tons of oil equivalent, a number that was 60.7 million metric tons more than Russia and 3.5 times more than Iran, the second- and third-highest producers of natural gas respectively.³

This massive increase in natural gas production has reduced the United States’ carbon footprint and altered its foreign policy goals.⁴ The protection of infrastructure for natural gas production, transportation, and delivery has become an important component of American homeland security goals.⁵ Pipelines used for transportation and delivery, in particular, are vulnerable, both from physical attack and cyberattack.⁶ The defense of these pipelines is mostly undertaken by private actors, as they own and operate the vast majority of natural gas infrastructure.⁷ Unfortunately, some experts fear that the pipelines are vulnerable to attack and that the Transportation Security Agency, the agency directly responsible for

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1. See Christina Nunez, *How Has Fracking Changed our Future?* NAT'L GEOGRAPHIC, <https://www.nationalgeographic.com/environment/energy/great-energy-challenge/big-energy-question/how-has-fracking-changed-our-future/> [https://perma.cc/3ASK-3YKY] (last visited Feb. 14, 2020).

2. U.S. ENERGY INFO. ADMIN., U.S. CRUDE OIL AND NATURAL GAS PROVED RESERVES, YEAR-END 2018 (2019), 35, <https://www.eia.gov/naturalgas/crudeoilreserves/pdf/usreserves.pdf> [https://perma.cc/FPC8-ZJYR]. In 2008, the United States had 255 trillion cubic feet of proved reserves for natural gas, and by 2018 that number had increased to 504.5 trillion cubic feet. *Id.*

3. INT. ENERGY AGENCY, IEA ATLAS OF ENERGY, <http://energyatlas.iea.org/#!/tellmap/-1165808390> [https://perma.cc/TF6C-8PX6] (last visited Jan. 12, 2020).

4. See Robert D. Blackwill & Meghan L. O’Sullivan, *America’s Energy Edge: The Geopolitical Consequences of the Shale Revolutions*, 93 FOREIGN AFF. 102, 109-13 (2014); see also Christina Nunez, *Can Natural Gas Be a Bridge to Clean Energy*, NAT'L GEOGRAPHIC (Jan. 5, 2020), <https://www.nationalgeographic.com/environment/energy/great-energy-challenge/big-energy-question/can-natural-gas-be-a-bridge-to-clean-energy/> [https://perma.cc/JKX3-4A9F].

5. PAUL W. PARFOMAK, CONG. RESEARCH SERV., IN11060, PIPELINE SECURITY: HOMELAND SECURITY ISSUES IN THE 116TH CONGRESS (2019).

6. *Id.*

7. Andrew Lee, *Improving Pipeline Cybersecurity with Public-Private Partnerships*, PIPELINE AND GAS J. (2017), <https://www.joneswalker.com/images/content/1/3/v2/1314/1935.pdf> [https://perma.cc/5RZV-JAM7].

pipeline defense, currently has neither the resources nor the expertise to properly protect them.⁸

This past year, Congress debated two bills to enhance the security of American gas pipelines.⁹ Although these bills draw attention to an important issue, some stakeholders argue that they remain inadequate because they only outline voluntary security guidelines that private companies should follow, as opposed to mandatory requirements that companies are required to follow.¹⁰ This Note surveys literature across multiple disciplines on mandatory and voluntary standards and concludes that the voluntary standards as written will likely be insufficient.

Lastly, this Note discusses how ethical lawyers for natural gas companies can provide additional protection if standards are not increased. It draws upon literature noting the social obligations of lawyers and affirms that wise advisers would counsel companies on the benefits of complying with voluntary standards.¹¹ This Note concludes by discussing the potential steps the American Bar Association (“ABA”) can take to ensure the security of natural gas pipelines.

I. BACKGROUND ON NATURAL GAS

A. THE UNCONVENTIONAL REVOLUTION

Natural gas is a mixture of four naturally occurring gasses, of which the largest is methane.¹² These gases result from compacted heat and pressure applied to dead animals and plants buried underneath the surface of the Earth for millions of years.¹³ Natural gas has traditionally been extracted from formations of “large cracks and spaces between layers of overlying rock.”¹⁴ These deposits of natural

8. Blake Sobczak, *Battle Lines Form over Pipeline Cyberthreat*, E&E News (July 25, 2019), <https://www.eenews.net/stories/1060784805> [https://perma.cc/MT7T-2CQJ]; Maya Weber, FERC Commissioners add to Calls for Cybersecurity Standards for Pipelines, S&P MKT. INTELLIGENCE (June 13, 2019), <https://www.spglobal.com/marketintelligence/en/news-insights/trending/j9h-0T-B3MAzb9EXDbVymg2> [https://perma.cc/65QF-728P].

9. See Sobczak, *supra* note 8.

10. See Weber, *supra* note 8 (noting that two FERC commissioners believed that mandatory standards would be preferable to voluntary standards); Mariam Baksh, *Leading Manufacturers Urge Senators to Establish Mandatory Cybersecurity Standards for Natural Gas Pipelines*, INSIDE CYBERSECURITY (Feb. 13, 2019), <https://insidecybersecurity.com/daily-news/leading-manufacturers-urge-senators-establish-mandatory-cybersecurity-standards-natural> [https://perma.cc/DDH5-9L9Y] (stating that manufacturers of natural gas pipelines favor mandatory standards).

11. Ben Heineman, *The General Counsel as Lawyer-Statesmen*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Sept. 5, 2010), <https://corpgov.law.harvard.edu/2010/09/05/the-general-counsel-as-lawyer-statesman/> [https://perma.cc/MU5H-9BKJ].

12. AMERICAN PETROLEUM INSTITUTE, *What is Natural Gas?*, <https://www.api.org/news-policy-and-issues/natural-gas-solutions/what-is-natural-gas> [https://perma.cc/MAM7-Q8JM] (last visited Jan. 12, 2020). The other three components of natural gas are ethane, butane, and propane. *Id.*

13. *Id.*

14. U.S. ENERGY INFO. ADMIN., NATURAL GAS EXPLAINED (2019), <https://www.eia.gov/energyexplained/natural-gas/> [https://perma.cc/6Q6U-HC3B].

gas have long been relatively straightforward to tap and extract.¹⁵ There are, however, other places on the planet where natural gas exists besides these “conventional” deposits. These unconventional gas deposits include shale gas, tight gas, gas hydrates, and coal bed methane.¹⁶ Unfortunately, these unconventional gas resources have historically been more difficult to utilize, and efforts to extract gas at scale from these resources have often been economically unviable.¹⁷

Two major technological advances have spurred tremendous innovation and have exponentially increased the amount of gas that can viably be extracted from unconventional resources. Specifically, horizontal drilling and hydraulic fracturing (“fracking”) have allowed natural gas producers to extract gas from shale beds at competitive prices.¹⁸ These technological developments have also allowed increased American oil production from unconventional sources.¹⁹

The impact of this new technology on the American market has been swift. From 2007 to 2008, shale gas grew from five percent of natural gas production in the United States to ten percent.²⁰ By 2017, gas from shale gas wells represented 63.4 percent of all gas withdrawals in the United States.²¹ This massive increase has had substantial effects on American energy. In 2015, natural gas overtook coal as the leading supplier of electricity generation in the United States.²² By 2018, natural gas was responsible for 35.2 percent of all electricity generation and was responsible for 31 percent of energy consumption, second only to petroleum.²³

B. BENEFITS AND DRAWBACKS OF NATURAL GAS

There are many government officials, academics, and other stakeholders who believe that the natural gas revolution is not only good for natural gas producers themselves but also the world at large. This includes many people who believe

15. See Tegan Valentine, *Conventional Gas*, STUDENT ENERGY, <https://www.studentenergy.org/topics/conventional-gas> [https://perma.cc/4N7Q-V62A] (last visited Apr. 5, 2020) (noting that conventional gas is less expensive and easier to extract than unconventional gas).

16. Tegan Valentine, *Unconventional Gas*, STUDENT ENERGY, <https://www.studentenergy.org/topics/unconventional-gas> [https://perma.cc/2PE5-LAFM] (last visited Apr. 5, 2020).

17. *See id.*

18. John Deutch, *The Good News About Gas: The Natural Gas Revolution and Its Consequences*, 90 FOREIGN AFF. 82, 84 (2011).

19. *What is Fracking and Why is it Controversial*, BBC (Oct. 15, 2018), <https://www.bbc.com/news/uk-14432401> [https://perma.cc/BA8A-SBPA].

20. Deutch, *supra* note 18, at 85.

21. U.S. ENERGY INFO. ADMIN., *Natural Gas Withdrawal and Production* (2019), https://www.eia.gov/dnav/ng_prod_sum_dc_NUS_mmcfa.htm [https://perma.cc/UD9N-3RF5].

22. Morgan Brennan, *Natural Gas Overtakes Coal as Top U.S. Electricity Source*, NBC NEWS (July 5, 2015), <https://www.nbcnews.com/business/energy/natural-gas-overtakes-coal-top-u-s-electricity-source-n391811> [https://perma.cc/FB6D-RS3D].

23. U.S. ENERGY INFO. ADMIN., *Frequently Asked Questions: What is U.S. Electricity Generation by Energy Source* (2019), <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3> [https://perma.cc/7E2K-KFYQ]; U.S. ENERGY INFO. ADMIN., *U.S. ENERGY FACTS EXPLAINED* (2019), <https://www.eia.gov/energyexplained/us-energy-facts/> [https://perma.cc/FDA5-CKD8].

natural gas production has a positive effect on the environment. These advocates, including President Obama, have pointed to the fact that burned natural gas releases much less greenhouse gas than other fossil fuels when burned.²⁴ The United Nations Economic and Social Commission held a workshop regarding the impact of natural gas on meeting emission reduction targets for the Paris Climate Agreement.²⁵ Natural gas, which has been dubbed a “bridge fuel,” also can aid in the transition to an emissions-free energy economy.²⁶ Specifically, in the absence of competitive energy storage technologies, natural gas can help society meet its twenty-four hour power needs since solar and wind power do not generate electricity when the sun does not shine or the wind does not blow.²⁷ Natural gas also generates significantly less mercury and nitrogen oxide than other fossil fuels.²⁸

On the other hand, skeptics of natural gas believe that the environmental friendliness of natural gas has been significantly overhyped.²⁹ They point to the fact that its production and usage release significant amounts of greenhouse gasses into the atmosphere.³⁰ Perhaps even more detrimental than the carbon dioxide natural gas releases to the atmosphere is the extremely potent greenhouse gas that escapes from unburned natural gas.³¹ Compared to carbon dioxide, methane is eighty times more effective at trapping heat.³² Additionally, a recent study found that US oil and natural gas production emits sixty percent more methane than previously estimated by the Environmental Protection Agency (“EPA”).³³ Skeptics of natural gas also believe that its widespread availability will ultimately stymie a transition to a carbon-free economy.³⁴ In addition to its impacts on climate, fracking can contaminate groundwater and has caused a significant number of regional earthquakes.³⁵

The geopolitical ramifications of the unconventional energy revolution are also quite immense. These technological advances have been a significant contributor to helping the United States work towards “energy independence,” a long-

24. Robert Golledge Jr., *Obama Saw a Key Role for Natural Gas*, COMMONWEALTH (May 13, 2018), <https://commonwealthmagazine.org/opinion/obama-saw-a-key-role-for-natural-gas/> [https://perma.cc/7WRH-AJB2].

25. U.N. ECONOMIC AND SOCIAL COMMISSION FOR ASIAN AND THE PACIFIC, WORKSHOP ON THE ROLE OF NATURAL GAS IN ACHIEVING SDG7 AND THE PARIS AGREEMENT (2019), <https://www.unescap.org/events/workshop-role-natural-gas-achieving-sdg7-and-paris-agreement> [https://perma.cc/P8L7-B3XR].

26. Bruce Lieberman, *Pros and Cons: Promise, Pitfalls of Natural Gas*, YALE CLIMATE CONNECTIONS (July 7, 2016), <https://www.yaleclimateconnections.org/2016/07/pros-and-cons-the-promise-and-pitfalls-of-natural-gas/> [https://perma.cc/X4KL-CXPB].

27. *See id.*

28. Jeff Turrentine, *The Natural Gas Industry Has a Methane Problem*, NAT'L RES. DEF. COUNCIL (June 7, 2019), <https://www.nrdc.org/onearth/natural-gas-industry-has-methane-problem> [https://perma.cc/7BGD-EE3R].

29. Lieberman, *supra* note 26.

30. *Id.*

31. *See* Turrentine, *supra* note 28.

32. *Id.* However, methane has a significantly shorter atmospheric lifespan than carbon dioxide. *Id.*

33. *Id.*

34. Nunez, *supra* note 4.

35. Lieberman, *supra* note 26.

standing goal of U.S. foreign policy. In 2018, the United States produced ninety-five percent of the amount of energy that it consumed.³⁶ Reducing its reliance on energy imports allows the United States more freedom to pursue its own interests in international affairs.³⁷ For instance, increased energy production from the United States has convinced wary allies that they can withstand the loss of Iranian oil, a useful tool in diplomacy with Iran.³⁸ Furthermore, some speculate that the relatively muted response to the Iran-supported attack on Saudi Arabia in October 2019 would have been dramatically different without the United States' unconventional energy boom.³⁹ Indeed, the entire geopolitics of the Middle East may be upended if increased American energy production continues to reduce the power that the Organization of the Petroleum Exporting Countries ("OPEC") has over the global oil market.⁴⁰

To be sure, using natural gas to influence the foreign policy of other nations is more difficult than using oil to do so. Unlike oil, natural gas is relatively difficult to transport and store.⁴¹ As such, natural gas markets are relatively regional.⁴² There are signs, however, that the unconventional natural gas revolution may be contributing to a more unified energy market. Specifically, new technologies that allow natural gas to be compressed and liquified has made transportation and storage more feasible.⁴³ As more and more natural gas is transportable, the natural gas market will look increasingly like oil or other commodities with a clear globalized market.⁴⁴ Increasing the capacity to liquefy natural gas could also further strengthen Europe's position vis-a-vis Russia and reduce Russian influence over European affairs.⁴⁵

36. U.S. ENERGY INFO. ADMIN., *supra* note 23.

37. See Blackwill & O'Sullivan, *supra* note 4, at 104.

38. See Matthew Phillips, *There Would Be No Iranian Nuclear Talks if Not for Fracking*, BLOOMBERG (Nov. 8, 2013), <http://www.bloomberg.com/news/articles/2013-11-08/there-would-be-no-iranian-nuclear-talks-if-not-for-fracking> [<https://perma.cc/BY8Q-QXCH>].

39. Richard Fontaine, *The Most Dangerous Moment of the Trump Presidency*, THE ATLANTIC (Sept. 23, 2019), <https://www.theatlantic.com/ideas/archive/2019/09/most-dangerous-moment-trump-era/598642/> [<https://perma.cc/C347-XVAX>]; Kevin D. Williamson, *More Fracking, or More War*, NAT'L REV. (Sept. 22, 2019), <https://www.nationalreview.com/2019/09/more-fracking-or-more-war/> [<https://perma.cc/TY4U-D48M>] (finding that fracking has reduced fragility of global energy reducing the likelihood of American military involvement in Middle East conflicts).

40. Blackwill & O'Sullivan, *supra* note 4, at 105.

41. Samantha Gross, *Geopolitical Implications of U.S. Oil and Gas in the Global Market*. BROOKINGS (May 22, 2018), <https://www.brookings.edu/testimonies/geopolitical-implications-of-u-s-oil-and-gas-in-the-global-market/> [<https://perma.cc/8HQG-KRCA>].

42. Jiang-Bo Geng, Qiang Ji, & Ying Fan, *The Impact of the North American Shale Gas Revolution on Regional Natural Gas Markets: Evidence from the Regime-Switching Model*, 96 ENERGY POL'Y 167, 167 (2016) (noting that North America, Europe, and Asia are three distinct markets).

43. See U.S. ENERGY INFO. ADMIN., *NATURAL GAS DELIVERIES TO U.S. LNG EXPORT FACILITIES SET A RECORD IN JULY* (2019), <https://www.eia.gov/todayinenergy/detail.php?id=40953> [<https://perma.cc/6HHE-GNG9>].

44. Blackwill & O'Sullivan, *supra* note 4, at 104.

45. Tom DiChristopher, *Poland's Goal of Ditching Russian Natural Gas Bolsters American LNG and Trump's Energy Agenda*, CNBC (Dec. 19, 2018), <https://www.cnbc.com/2018/12/19/polands-goal-of-ditching-russias-gas-supply-to-europe.html>.

II. PROTECTING NATURAL GAS INFRASTRUCTURE

A. CURRENT STATUS NATURAL GAS PIPELINE SECURITY

The increasing role of natural gas for electricity generation, meeting climate objectives, and advancing foreign policy goals makes the infrastructure for natural gas production, transportation, and distribution an extremely important component of the nation's critical infrastructure. A disruption to natural gas production, transportation, or distribution could have devastating consequences for the United States. The chairman of the Federal Energy Regulatory Commission ("FERC") noted that an attack on just one gas pipeline could cause massive blackouts across the country.⁴⁶ Although these blackouts do not cause the immediate damage and devastation that other types of attacks may produce, such attacks come with high costs to both the economy and to people's lives. The October 2019 blackouts in California, a preventative measure to impede more wildfires, closed businesses and schools, and cost the California economy as much as \$2.5 billion.⁴⁷ A report by the National Research Academy of Sciences, National Academy of Engineering, and Institute of Medicine noted that a well-planned attack to the United States energy grid could cost hundreds of billions of dollars and cause hundreds or even thousands of deaths.⁴⁸

The entire production, transportation, and distribution system of natural gas is critical to the nation's infrastructure, but pipelines may especially be vulnerable. First, there are more than 2.2 million miles of gas pipeline in the United States,⁴⁹ and the Congressional Research Service ("CRS") published a report noting that pipelines are vulnerable to physical attack, especially to attacks using explosives.⁵⁰ These pipelines run through both remote areas and dense urban areas and cross borders into Canada and Mexico.⁵¹ Al-Qaida has noted its interest in attacking U.S. energy infrastructure, and U.S. law enforcement has arrested individuals

russian-gas-yields-opportunity-for-us-lng.html [<https://perma.cc/9VRC-BQ6K>] (finding that Poland has threatened to end natural gas deal with Russia in response to increased American LNG).

46. Matt Egan, *Top Energy Regulator Warns of Mass Blackouts if a Gas Pipeline were Attacked*, CNN (Sept. 26, 2019), <https://www.cnn.com/2019/09/23/business/pipeline-security-blackout-ferc-chatterjee/index.html> [<https://perma.cc/WR2C-N7VV>].

47. Pippa Stevens, *PG&E Power Outage Could Cost the California Economy More than \$2 Billion*, CNBC (Oct. 10, 2019), <https://www.cnbc.com/2019/10/10/pge-power-outage-could-cost-the-california-economy-more-than-2-billion.html> [<https://perma.cc/6KZU-76CA>].

48. COMMITTEE ON ENHANCING THE ROBUSTNESS AND RESILIENCE OF FUTURE ELECTRICAL TRANSMISSION AND DISTRIBUTION IN THE UNITED STATES TO TERRORIST ATTACK, ET AL., *TERRORISM AND THE ELECTRIC POWER DELIVERY SYSTEM* 16 (2012).

49. Gopal Ratnam, *Pipelines Vulnerable under TSA's Watch*, ROLL CALL (Mar. 5, 2012), <https://www.rollcall.com/news/congress/pipelines-vulnerable-under-tsas-watch> [<https://perma.cc/6HHE-GNG9>].

50. Parfomak, *supra* note 5.

51. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-19-48, *Critical Infrastructure Protection: Actions Needed to Address Significant Weaknesses in TSA's Pipeline Security Program Management* 7-8 (2018).

who planned to blow up natural gas pipelines in Texas and Oklahoma.⁵² The CRS also noted that pipelines are also vulnerable to “outside manipulation” through cyberattack,⁵³ and several nation-states have the capacity to launch such crippling attacks.⁵⁴ The 2019 Worldwide Threat Assessment published by the Office of the Director of National Intelligence suggested that China could disrupt natural gas pipelines with cyberattacks for several consecutive days or even weeks.⁵⁵

The defensive capabilities of pipeline infrastructure can vary tremendously since pipelines are operated by more than 3,000 companies.⁵⁶ Indeed, the entire national energy system faces tremendous pressure from cyberattacks. Then-Secretary of Energy Rick Perry confirmed as much when he stated, “[t]he sustained and growing threat of cyberattacks to our energy infrastructure requires us to think differently, to act proactively.”⁵⁷

Currently, the Transportation Security Administration (“TSA”), an agency of the Department of Homeland Security that is primarily tasked with securing airports, has regulatory authority for oil and gas pipeline security.⁵⁸ As of 2017, the agency had only six employees managing the security threat to pipelines and had no mandatory enforcement authority for its security objectives.⁵⁹ Instead, TSA could only offer voluntary guidelines for pipeline companies to follow.

Even in light of its limited regulatory authority, the agency has opted to take a light-handed approach to natural gas infrastructure.⁶⁰ In 2018, the TSA received significant criticism for its seemingly lax approach to regulating pipelines.⁶¹ The Government Accountability Office (“GAO”) joined this criticism when it published a report noting the weaknesses of TSA’s approach to pipeline security, even though TSA had just updated its security guidelines earlier that year.⁶² Two commissioners at FERC, the regulatory body responsible for the “transmission of

52. Ratnam, *supra* note 49.

53. Parfomak, *supra* note 5.

54. See DANIEL R. COATES, DIRECTOR OF NATIONAL INTELLIGENCE, WORLDWIDE THREAT ASSESSMENT OF THE US INTELLIGENCE COMMUNITY (2019).

55. *Id.*

56. U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 51, at 8.

57. Sean Lyngras, *Rick Perry: U.S. Must Use Technology Prowess to Defend Power Grid*, CYBERSCOOP (June 4, 2018), <https://www.cyberscoop.com/rick-perry-electrical-grid-cybersecurity-doe/> [https://perma.cc/R7EA-RHCV].

58. See Katerine O’Konski & Miles Kiger, *FERC Chairman Chatterjee Testifies on Cybersecurity*, TROUTMAN SANDERS (Feb. 20, 2019), <https://www.troutmansandersenergyreport.com/2019/02/ferc-chairman-chatterjee-testifies-cybersecurity/> [https://perma.cc/F287-FH9F].

59. *Id.*

60. See Van Ness Feldman, *Critical Infrastructure: 2018 Cybersecurity Year in Review/2019 Year Ahead Analysis*, NAT. L. REV. (Jan. 24, 2019), <https://www.natlawreview.com/article/critical-infrastructure-2018-cybersecurity-year-review2019-year-ahead-analysis> [https://perma.cc/Q9DM-FX38].

61. *Id.*

62. *Id.*

electricity, natural gas, and oil,”⁶³ wrote an op-ed stating that TSA is unable to fully comprehend the growing cybersecurity threat.⁶⁴

The industry has a different perspective on how to best protect natural gas infrastructure. Although relevant stakeholders recognize the emerging threat facing pipelines, they are generally in favor of relatively permissive safeguards and have criticized mandatory security standards.⁶⁵ For instance, industry groups such as the American Gas Association (“AGA”), the American Petroleum Institute (“API”), and the Interstate Natural Gas Association of America (“INGAA”) all have claimed that the new security regulations may cause more harm than good.⁶⁶ They specifically warn against mandatory standards that could quickly become outdated and note that any cyber regime should be flexible and adaptable.⁶⁷ Similarly, local natural gas distribution companies agree that gas distribution requires a light regulatory touch.⁶⁸

Other interested parties disagree with the common industry position.⁶⁹ They believe that the importance of the natural gas infrastructure necessitates a much tougher regulatory approach. For instance, officials at the North American Electric Reliability Corporation (“NERC”), a nonprofit corporation that ensures “the reliability of the North American bulk power system,”⁷⁰ noted that gas transmission and distribution could follow the same mandatory standards that NERC has set out for the U.S. power system.⁷¹ Moreover, officials at FERC, which currently has “no jurisdiction over pipeline safety or security,”⁷² similarly believe that mandatory standards would help protect pipeline safety. One FERC commissioner noted that the eighty-percent compliance that TSA hoped for its voluntary standards “doesn’t cut it,” and that compliance needs to be at one hundred-percent.⁷³ Additionally, Moody’s Investors Services is also skeptical of the TSA’s ability to oversee the physical and cybersecurity of pipelines. They noted that while mandatory cyber requirements might increase the initial cost to

63. *What FERC Does*, FEDERAL ENERGY REGULATORY COMMISSION (Aug. 14, 2018), <https://www.ferc.gov/about/ferc-does.asp> [https://perma.cc/PGY8-EQF8].

64. See Neil Chatterjee & Richard Glick, *Cybersecurity Threats to U.S. Gas Pipelines Call for Stricter Oversight*. AXIOS (June 11, 2018), <https://wwwaxios.com/cybersecurity-threats-to-us-gas-pipelines-call-for-stricter-oversight-09fac6e5-da94-491e-9523-d08ef15237f4.html> [https://perma.cc/MJ9P-WU2D].

65. See Sobczak, *supra* note 8.

66. *Id.*

67. See Mark Tarallo, *Is Pipeline Security Adequate?*, ASIS INTERNATIONAL (Oct. 2019), <https://www.asisonline.org/security-management-magazine/articles/2019/10/is-pipeline-security-adequate/> [https://perma.cc/M94N-JJCV].

68. See Sobczak, *supra* note 8.

69. *Id.*

70. *Standards*, N. AM. ELEC. RELIABILITY CORP., <https://www.nerc.com/pa/Stand/Pages/default.aspx> [https://perma.cc/2XYM-5S7S] (last visited Jan. 12, 2020).

71. Sobczak, *supra* note 8.

72. *Natural Gas Pipelines*, FEDERAL ENERGY REGULATORY COMMISSION (July 22, 2019), <https://www.ferc.gov/industries/gas/indus-act/pipelines.asp> [https://perma.cc/ZJ4L-9ZWP].

73. Weber, *supra* note 8.

companies operating pipelines, the benefit from the increased likelihood of avoiding disruption is worth the tradeoff.⁷⁴

B. CURRENT PROPOSALS IN CONGRESS

In 2019, Congress, recognizing the critical importance of natural gas, debated ways to secure gas infrastructure. Congressman Manuel Cleaver (D-MO) introduced the Pipeline Security Act in the Homeland Security Committee.⁷⁵ The bill allows pipeline oversight to remain with the TSA and affirmed areas of cooperation between TSA and other agencies in the Department of Homeland Security (“DHS”).⁷⁶ The legislation also called for TSA to appoint someone with pipeline specific knowledge to lead a section within the agency, and for TSA to hire staff with cybersecurity expertise.⁷⁷ Interestingly, the Act allowed for personnel from the Cybersecurity and Infrastructure Security Agency (“CISA”) to be detailed to TSA to help them fulfill the cybersecurity expertise mandated by the Act.⁷⁸ The bill would also require TSA to develop voluntary guidelines that would be updated every three years to protect the physical security and cybersecurity of pipelines.⁷⁹ The bill won approval from the Homeland Security Committee but has yet to be voted on by the entire House.⁸⁰

Another bill was also debated in the House in 2019. The Pipeline and LNG Facility Cybersecurity Preparedness Act, introduced by Fred Upton (R-MI), would transfer some oversight of natural gas pipelines and liquefied natural gas facilities to the Department of Energy (“DOE”).⁸¹ This bill would authorize DOE rather than TSA to develop voluntary guidelines to protect the security of pipelines.⁸² The bill also calls for coordination between different federal and state agencies as well as other stakeholders in the energy sector to “ensure the security, resiliency, and survivability of natural gas pipelines . . . and liquefied natural gas facilities.”⁸³ The bill also tasks DOE with directing the response to any attack on the energy sector.⁸⁴

C. THE SUFFICIENCY OF VOLUNTARY STANDARDS

These proposals would focus government resources on an area vital to American interests. Still, they would maintain the regime of voluntary guidelines

74. Sobczak, *supra* note 8.

75. Pipeline Security Act, H.R. 3699, 116th Cong. (2019) (co-sponsored by Congressman Van Taylor (R-TX)).

76. *Id.* § 4(a).

77. *Id.* § 1209(c).

78. *Id.* § 1209(e).

79. *Id.* § 1209(d)(2).

80. Sobczak, *supra* note 8.

81. See Pipeline and LNG Facility Cybersecurity Preparedness Act, H.R. 370, 116th Cong. (2019).

82. *Id.* § 2(3).

83. *Id.* § 2(1).

84. *Id.* § 2(2).

for natural gas infrastructure, a critically important component of the United States' energy, environmental, and foreign policy. While voluntary guidelines do have some significant advantages compared to mandatory standards, neither the status quo regime nor the Congressional proposals will likely be sufficient to adequately protect natural gas infrastructure.

The Commission of the European Communities noted three major benefits of voluntary agreements.⁸⁵ First, voluntary standards encourage cooperation between regulators and industry.⁸⁶ Second, they provide flexibility to find economical solutions to specific conditions.⁸⁷ Lastly, voluntary agreements can sometimes be met more quickly because they eliminate the gaps that legislation often provides for companies to meet minimum mandatory thresholds.⁸⁸

Similar benefits would likely result from voluntary standards for natural gas. If the standards remained voluntary, it would allow natural gas companies to participate with regulatory agencies to develop best practices for energy security. Moreover, if the government mandated official standards, private actors could simply rely on the standards as the benchmark security guidelines that they must follow without accounting for new security risks. Likewise, it is possible that any mandatory time requirements may result in companies not feeling obligated to go above and beyond the minimum requirements to achieve energy security, even when the threat itself is extremely urgent.

There has also been academic literature across different disciplines that describes the tradeoffs between voluntary and mandatory standards in varying circumstances, and much of that work has focused specifically on environmental protections. Kathleen Segerson and Thomas Miceli from the University of Connecticut analyzed whether voluntary agreements can lead to "efficient environmental protection."⁸⁹ In particular, the authors developed a theoretical model of bargaining between a regulator and a firm on how much pollution a firm can emit.⁹⁰ The authors determined that any agreement between the two depends on at least three factors: the relative power between the regulator and the firm, the level of potential threat that the regulator can levy in the absence of an agreement, and the social cost of raising money to cover subsidies.⁹¹ When a regulator has most of the bargaining power, the agreement for pollution abatement may exceed what a legislative body would have mandated. Similarly, an agreement with high levels of abatement is more likely when the background threat from the

85. Kathleen Segerson & Thomas J. Miceli, *Voluntary Environmental Agreements: Good or Bad News for Environmental Protection?*, 36 J. ENV'T ECON. & MGMT. 109, 110 (1998).

86. *Id.*

87. *Id.*

88. *Id.*

89. *Id.* at 109.

90. *Id.* at 110–11.

91. *Id.* at 128.

legislature is strong.⁹² When the firm has more bargaining power or when the background threat from the legislature is weak, voluntary agreements will likely produce lower levels of abatement than mandatory standards.⁹³ In such situations, subsidies to a firm might create some social welfare if the social cost of raising money is low.⁹⁴ Thus, the authors argue that whether voluntary agreements can produce acceptable levels of pollution abatement is situation dependent.⁹⁵

JunJie Wu from Oregon State University and Bruce Babcock from Iowa State University similarly published a theoretical article describing the conditions in which a voluntary agricultural program is more efficient than a mandatory one.⁹⁶ Specifically, the article compares programs in which either the government can mandate the adoption of a conservation program that is punishable by fine for noncompliant farmers, or the government can provide technical assistance and potential incentive payments to farmers adopting the program.⁹⁷ The authors found that voluntary programs are likely to be more efficient than mandatory programs when: (i) there is little deadweight loss from raising government revenue; (ii) there are low marginal costs to assisting an additional farmer; (iii) government services necessary for compliance are cheaper than comparable private service; (iv) there are many farms governed by the program; and (v) the enforcement costs for voluntary programs are relatively low compared to the enforcement costs for mandatory programs.⁹⁸ The article concluded by noting that fines and technical assistance do not have to be mutually exclusive, and well-crafted legislation can use aspects of both approaches.⁹⁹

In an analysis of three separate projects sponsored by the Global Environmental Management Initiative, former Deputy Assistant Administrator for the US EPA Office of Policy, Planning and Evaluation Daniel Beardsley and the consulting firm Albers and Company analyzed the outcomes of three studies on voluntary, incentive-based programs.¹⁰⁰ The authors noted several factors that led to incentive-based programs working well, including “simple and clear” goals for the government and business, allowing participants to contribute to the establishment of goals, and trust among participants of the program.¹⁰¹ Unsuccessful incentive-based programs lack the above factors. Additionally, unsuccessful programs exhibit “uncertainty about either the business and environmental benefits of the

92. *Id.*

93. *Id.*

94. *Id.*

95. *Id.*

96. JunJie Wu & Bruce Babcock, *The Relative Efficiency of Voluntary vs Mandatory Environmental Regulations*, 36 J. ENV'T ECON. & MGMT. 158, 160 (1999).

97. *Id.*

98. *Id.* at 170.

99. *Id.* at 171.

100. Daniel P. Beardsley & Albers & Company, *Incentives for Environmental Improvement: An Assessment of Selected Innovative Programs in the States and Europe*, GLOB. ENV'T MGMT INITIATIVE 3 (1996).

101. *Id.* at 4.

program” as well as weak incentives for program participants.¹⁰² The authors also argue that without a statutory basis for the program, civil servants will spend little time administering it.¹⁰³ Thus, the quantitative data of actual projects align with theoretical models and confirm that the success of voluntary agreements depends on a program’s unique characteristics.

The aforementioned studies on voluntary environmental guidelines suggest that voluntary standards can be useful in protecting natural gas infrastructure in some circumstances. The amount of protection they can provide relative to mandatory standards depends on a wide range of factors. Some factors suggest that natural gas voluntary guidelines could be robust. For instance, there may be a legitimate background threat that Congress could eventually impose mandatory standards, which would increase the likelihood that firms comply with those guidelines set by TSA or some other agency within the federal government.¹⁰⁴ Moreover, both the Pipeline Security Act and the Pipeline and LNG Facility Cybersecurity Preparedness Act call for inter-stakeholder cooperation to set voluntary security guidelines.¹⁰⁵ The proposed legislation also calls for new civil servants or workforce procedures to assist in protecting natural gas infrastructure.¹⁰⁶ In addition, the reasons for security guidelines are quite clear for those being regulated since the natural gas industry recognizes the need for increased protection of gas infrastructure.¹⁰⁷ Lastly, the costs to the government of administering the guidelines will be relatively inexpensive, as there likely will be very little marginal costs for providing additional security guidelines to an additional company and there will be low enforcement costs for determining whether companies adhere to such guidelines.¹⁰⁸

One important factor, however, suggests that the status quo and proposed regimes of voluntary standards will be insufficient. Several of the studies noted that monetary incentives were a crucial component of successful voluntary standards.¹⁰⁹ Without these monetary inducements, any evaluation of the relative success of voluntary standards compared to mandatory standards is speculative at best.

102. *Id.* at 4–5.

103. *Id.* at 5.

104. Cf. Weber, *supra* note 8 (finding that federal regulatory authorities are asking Congress to impose mandatory standards).

105. See Pipeline and LNG Facility Cybersecurity Preparedness Act, H.R. 370, 116th Cong.; Pipeline Security Act, H.R. 3699, 116th Cong. (2019).

106. *See id.*

107. *See* Sobczak, *supra* note 8.

108. There are no incentives in the proposed legislation, and thus little reason for enforcement to be costly. See Pipeline and LNG Facility Cybersecurity Preparedness Act, H.R. 370, 116th Cong.; Pipeline Security Act, H.R. 3699, 116th Cong. (2019).

109. Segerson & Miceli, *supra* note 85, at 128 (finding that subsidies were an important component of overall societal welfare, especially when firms are in a strong bargaining position compared to the government); Wu & Babcock, *supra* note 96, at 160 (describing a theoretical model in which there are incentive payments to farmers).

On the other hand, there are several convincing arguments for mandatory standards compared to voluntary guidelines.¹¹⁰ Best practices as opposed to standards create confusion about the actual duty of companies.¹¹¹ There are no boundaries on what qualifies as successful adherence to best practices, and company leaders may easily be able to characterize their efforts as “a job well done.”¹¹²

The advantages of mandatory standards can apply to a wide range of circumstances. For instance, literature from academic finance has empirically confirmed benefits from mandatory standards.¹¹³ Siqi Li from Santa Clara University, for example, measured the benefits of switching from voluntary reporting guidelines to mandatory international financial reporting standards.¹¹⁴ Using a common causal inference technique, the author determined that companies forced to switch to the new standards had a lower cost of equity; however, this lower cost of equity was only realized in countries that had “strong legal enforcement mechanisms.”¹¹⁵ In addition, the lower cost of equity could somewhat be explained by both increased disclosures required from the international standards as well as the comparability of standards across states.¹¹⁶ The author convincingly shows the conditions in which mandated standards can provide beneficial outcomes for society. While much of the article specifically addresses financial disclosure, Li’s analysis suggests that mandatory standards for gas pipelines will increase disclosure to the government when security is violated in any capacity, thus limiting the likelihood of a successful large-scale attack.

The above benefits of mandatory standards aside, it is likely that an ordinary analysis of tradeoffs is not the right framework to analyze natural gas security. Unlike securing critical infrastructure, protecting the environment and the financial system usually have the luxury of being “right” on average. In other words, if just one company does not meet environmental or financial best practices, it will likely not have massive negative effects on the entire system.¹¹⁷ Unfortunately, issues related to security often do not have that luxury. When security is at issue,

110. Robert Gynes, *A Voluntary Cybersecurity Framework Is Unworkable - Government Must Crack the Whip*, 14 PITT. J. TECH. L. & POL’Y 293, 307 (2014).

111. *Id.*

112. *Id.* at 308.

113. See Annita Florou & Urska Kosi, *Does Mandatory IFRS Adoption Facilitate Debt Financing?*, 20 REV. ACCOUNT. STUD. 1407, 1407 (2015); Sqi Li, *Does Mandatory Adoption of International Financial Reporting Standards in the European Union Reduce the Cost of Equity Capital?*, 85 ACCT. REV. 607, 607 (2010).

114. Li, *supra* note 113, at 607.

115. *Id.* at 609.

116. *Id.*

117. To be sure, the government does believe that there are several firms that can potentially cause damage to the entire financial system. Federal legislation mandates that these “systematically important financial institutions” with strict capital requirements and other significant regulatory burdens. Daniel Liberto, *Systemically Important Financial Institution (SIFI)*, INVESTOPEDIA (Nov. 21, 2019), <https://www.investopedia.com/terms/s/systemically-important-financial-institution-sifi.asp> [<https://perma.cc/4B7D-UXJE>].

adversaries “only have to be lucky once,” but the American security apparatus has to be “lucky always.”¹¹⁸ This sentiment explains why a regime of mandatory standards for natural gas pipelines is likely preferable to voluntary guidelines and why a commissioner at FERC noted that companies cannot afford to be right on security just eighty-percent of the time.¹¹⁹

III. A VOID FILLED BY THE LEGAL PROFESSION

A. LAWYERS’ ETHICAL RESPONSIBILITIES UNDER VOLUNTARY STANDARDS FOR NATURAL GAS

This Note has discussed that the protection of natural gas production, transportation, and delivery is a major issue for the United States. All relevant stakeholders realize that the country must remain vigilant in defending gas infrastructure, but neither current law nor the bills that have been proposed sufficiently meet such a pressing need. Many of the individuals and institutions involved with protecting other parts of critical infrastructure seem to prefer a regime of mandatory standards for natural gas infrastructure.¹²⁰ This should certainly be considered given that these individuals have extremely relevant expertise in protecting other critical infrastructure. Nonetheless, there may be other ways of addressing the issue, including offering subsidies or incentives to the firms controlling gas pipelines. In the absence of any changes to the voluntary standards regime, however, the responsibilities of corporate counsel for natural gas companies make it such that they can somewhat ameliorate the poor policy decisions of Congress.

The idea that lawyers should contemplate considerations beyond narrow legal technicalities is not unique. Rule 2.1 of the ABA *Model Rules of Professional Conduct* provides that when “rendering advice, a lawyer may refer not only to law but to other considerations such as moral, economic, social and political factors, that may be relevant to the client’s situation.”¹²¹ Thus, at a very minimum, counsel for companies that operate natural gas infrastructure could note that their role is not simply to ensure that their businesses are doing the bare minimum to avoid running afoul of technical statutes, but rather to provide broad context to help clients make well-informed decisions.

Many academic analyses of legal ethics have expanded on the duties of lawyers when advising companies. Corporate lawyers must be forward-looking because formalized laws are often a lagging indicator for broad social values.¹²² In fact, the “ideal of the modern general counsel is a ‘lawyer-statesman’” in

118. Jo Thomas, *This Time, The I.R.A. Comes Close to Thatcher*. N.Y. TIMES (Oct. 14, 1984), <https://www.nytimes.com/1984/10/14/weekinreview/this-time-the-ira-comes-close-to-thatcher.html> [https://perma.cc/AA9W-WDEY?type=image].

119. Weber, *supra* note 8.

120. See Sobczak, *supra* note 8.

121. MODEL RULES OF PROF’L CONDUCT R. 2.1 (2018) [hereinafter MODEL RULES].

122. See William T. Gossett, *The Corporation Lawyer’s Social Responsibilities*, 60 ABA J. 1517, 1519 (1974).

addition to being a shrewd technical lawyer.¹²³ Lawyer-statesmen with high integrity who comply with both the letter and spirit of the law help companies mitigate risk.¹²⁴ Applying the construction of a “high integrity lawyer-statesmen” to natural gas companies would lead not only to counsel for these companies recognizing that guidelines are only “voluntary,” but also to informing company leaders about how the spirit of the law implicates the extremely important task of protecting critical infrastructure for the entire country.

Incorporating social obligations into their jobs helps lawyer-statesmen prepare their companies for future challenges and avoid future risk.¹²⁵ Suggesting compliance with voluntary security standards would therefore be important for the counsel’s responsibility to help companies avoid future risk, both from the liability the company could potentially face as well as the damage to a company’s reputation should any successful attack be the result of noncompliance. Lawyer-statesmen should also be among the leaders in setting a public policy agenda for the company because they have a wide range of knowledge across different policy issues.¹²⁶ The ethical counsel for natural gas companies would thus be well-versed in the importance of natural gas to America’s environmental, security, and foreign policy goals and use such knowledge to inform their advice.

Furthermore, lawyers’ responsibilities imply that they should become strong voices for corporate social responsibility (“CSR”) within a company.¹²⁷ In fact, many corporations themselves have established guidelines noting that lawyers have CSR roles beyond narrow corporate interests.¹²⁸ Interestingly, however, much of the academic work on corporate lawyers’ ethical responsibilities has been relatively silent on lawyers’ role in promoting security in corporations. Nevertheless, some CSR-specific scholars have noted that security is an extremely important component of corporate responsibility.¹²⁹ As a good arbiter of CSR, natural gas lawyers should advocate strongly that complying with natural gas standards makes the company “a good corporate citizen.”

Lawyers’ ethical duties include offering candid, independent advice and such guidance should be informed by moral and political considerations.¹³⁰ While lawyers must always be aware of their client’s interests, they must also be aware that

123. Heineman, *supra* note 11.

124. *See id.*

125. *See id.*

126. *Id.*

127. See Joe W. Pitts III, *Business, Human Rights and the Environment: The Role of the Lawyer in CSR and Ethical Globalization*, 26 BERKELEY J. INT’L L. 479, 480 (2008).

128. See Christopher J. Whelan & Neta Ziv, *Law Firm Ethics in the Shadow of Corporate Social Responsibility*, 26 GEO. J. LEGAL ETHICS 153, 159 (2013).

129. Gail Ridley, *National Security as a Corporate Social Responsibility: Critical Infrastructure Resilience*, 103 J. BUS. ETHICS 111, 111 (2011) (using a well-cited analytical framework on CSR to show that critical infrastructure security can comfortably fit within a CSR agenda).

130. Pitts, *supra* note 127, at 492.

the client is the organization itself, not the manager supervising them.¹³¹ Thus, lawyers should always strive to give answers and opinions that are in the long-term interest of the client.¹³² In fact, lawyers should affirmatively raise issues about “justice, human rights, protection of the environment and other aspects of the public interest.”¹³³ Therefore, should a lawyer work for a natural gas company that does not comply with the voluntary security standards, she should affirmatively raise the issue and instruct company leaders on all the potential harms of noncompliance.

It is clear that responsible practices for gas companies’ lawyers would dictate that any such counsel must advise compliance with the voluntary standards set by the government. Thus, lawyers can fill a critical void in securing an important component of critical infrastructure as long as the government remains convinced that its current regime for natural gas infrastructure is appropriate.

B. SUGGESTIONS FOR THE BROADER LEGAL COMMUNITY

The legal community can take even more active steps to ensure that the United States’ natural gas infrastructure is secure. The ABA has published a resource on laws related to critical infrastructure as part of a sourcebook and has maintained that the government needs to partner with the private sector to help secure the nation’s cybersecurity.¹³⁴ The ABA can also develop a more robust research agenda around natural gas pipelines and other critical infrastructure, much as it has already done for cybersecurity.¹³⁵ A deep research agenda would raise the understanding in the legal community of an extremely important but relatively obscure challenge facing American security officials. With that increased awareness, the legal community could better participate in the policy debates that shape American homeland security. The ABA can also take advocacy-oriented steps to promote more robust protections for natural gas pipelines.¹³⁶ For instance, the organization can write letters to elected officials encouraging pipeline protections that are more robust than those currently being proposed.

The ABA should also produce literature advising lawyers who specifically work with critical infrastructure. Like it has done for a wide range of issues

131. *Id.*

132. *Id.*

133. *Id.* at 500.

134. *The Sourcebook of Public-Private Partnerships for Security and Resilience 2018: A Compendium of Laws and Policy Documents*, ABA, <https://www.americanbar.org/products/inv/book/286274864/> [https://perma.cc/YY6A-RSQV] (last visited Jan. 12, 2020).

135. See *Cybersecurity Legal Task Force*, ABA, <https://www.americanbar.org/groups/cybersecurity/> [https://perma.cc/23KA-3F44] (last visited Jan. 12, 2020). The ABA created a task force on cybersecurity that “serves as a clearinghouse regarding cybersecurity activities, policy proposals, advocacy, publications, and resources.” *Id.*

136. See generally *Advocacy and Initiatives*, ABA, <https://www.americanbar.org/advocacy/> [https://perma.cc/XBT5-3CEZ] (last visited Jan. 12, 2020). The ABA regularly engages in governmental advocacy. *Id.*

including nonprofit management and terrorist financing,¹³⁷ the ABA can create guidelines for lawyers who work with critical infrastructure security. Presumably, the guidance would encourage legal counsel to convince their companies to comply with voluntary standards. The ABA Center for Professional Opinion could also issue a formal opinion on the obligations of lawyers working for private companies that are engaged in a capacity that is of importance to national security. A formal opinion could suggest that lawyers working with such companies take affirmative steps to advise their companies of the benefits of complying with security guidelines set by the government.

There is one notable difficulty for the ABA in offering specific guidance to lawyers working in critical infrastructure beyond reminding them that they can consider “moral, economic, social and political factors” when serving as an adviser.¹³⁸ Specifically, there is no language in the *Model Rules* to ensure that lawyers affirmatively counsel their clients to avoid engaging in activities contrary to security, unless such activities are either “criminal or fraudulent.”¹³⁹ In fact, Comment 5 to Rule 2.1 states that, “In general, a lawyer is not expected to give advice until asked by the client . . . but a lawyer may initiate advice to a client when doing so appears to be in the client’s interest.”¹⁴⁰ Thus, a plain reading of the rules and the comments suggest that it is up to an individual lawyer to determine whether the interests of national security should be preemptively brought up to a client if she is not asked.

That being said, it may be possible to interpret the rules and the comments such that lawyers do potentially have an affirmative duty to inform their client when that client is acting contrary to the interests of national security. Comment 5 to Rule 2.1 notes several exceptions in which a lawyer may have an affirmative duty to inform their client about potential effect of the clients’ actions.¹⁴¹ In one of the exceptions, lawyers have a duty to inform a client if the clients’ actions will likely result in “substantial adverse legal consequences.”¹⁴² If an attack occurs because a company did not comply with industry-wide norms, that may be considered negligence. The ABA could even write a formal opinion noting the substantial legal consequences that would arise from noncompliance with federal security guidelines if that noncompliance resulted in a successful attack with broad national implications. Under such a development, a lawyer’s duty would include affirmatively informing her client of potential ramifications for taking

137. *Nonprofit Governance and Management, Third Edition*, ABA, <https://www.americanbar.org/products/inv/book/213991/> [<https://perma.cc/6URW-JQ6A>] (last visited Jan. 12, 2020); David L. Hudson, *ABA Endorses Guidance for Lawyers on Fighting Money Laundering and Terrorist Financing*, ABA JOURNAL (2013), http://www.abajournal.com/magazine/article/aba_endorses_guidance_for_lawyers_on_fighting_money_laundering_and_terroris [<https://perma.cc/4JGD-EJEJA>].

138. MODEL RULES R. 2.1.

139. MODEL RULES R. 1.2(d).

140. MODEL RULES R. 2.1 cmt. 5.

141. MODEL RULES R. 2.1 cmt. 5.

142. MODEL RULES R. 2.1 cmt. 5.

actions contrary to security. The ABA could also amend Comment 5 to Rule 2.1 to include a specific exception in which lawyers have a duty to inform a client when it is acting contrary to security interests. Either step by the ABA would ensure that lawyers are offering more thorough advice to clients when acting in a counselor role.

CONCLUSION

Natural gas has long been an important part of the nation's energy portfolio,¹⁴³ but due to the unconventional gas revolution, the energy source has become more important in advancing America's interests both at home and abroad.¹⁴⁴ Thus, it is not surprising that protecting natural gas infrastructure has taken on increased importance. Successful attacks on natural gas infrastructure could cripple portions of the nation's energy grid for days or even weeks.¹⁴⁵ The rules in place do not adequately protect such an important portion of the United States' critical infrastructure,¹⁴⁶ but Congress has introduced new proposals meant to bolster its protections.¹⁴⁷ Even still, many experts think these newly proposed standards are still inadequate in large part due to their reliance on voluntary standards.¹⁴⁸

This Note examines voluntary and mandatory standards under different circumstances and concludes that the voluntary standards in place or that are being proposed are likely to be insufficient. Nonetheless, even if Congress does not propose improved legislation, lawyers for natural gas companies can ameliorate the harms of insufficient guidelines. Their responsibilities as counsel should lead them to inform their clients of the importance of complying with the voluntary guidelines. Likewise, the legal community as a whole can take a more active role in protecting the nation's infrastructure. Should it do that, it would be more fully embracing its role of serving its members and advancing the rule of law.

143. U.S. ENERGY INFO. ADMIN, *supra* note 21.

144. Blackwill & O'Sullivan, *supra* note 4, at 104.

145. Coates, *supra* note 54.

146. See Parfomak, *supra* note 5.

147. See Pipeline and LNG Facility Cybersecurity Preparedness Act, H.R. 370, 116th Cong.; Pipeline Security Act, H.R. 3699, 116th Cong. (2019).

148. See Chatterjee & Glick, *supra* note 64.