INTRODUCTION

POWERING THE FUTURE: A MODERN CONVERSATION ON ENERGY

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A modern conversation on energy would no doubt include a discussion of the traditional operations in the oil and gas industry, as fossil fuels continue to dominate, if not, define our existence.[1] The conversation delves into the strides being made to develop durable and viable alternatives to prominent hydrocarbons, namely coal, crude oil and natural gas.[2] As concerns about the contributions of hydrocarbons to global climate change continue to grow, efforts focusing on energy sourced, *inter alia*, from wind, solar and biomass will likely gain steam.[3] In addition, a modern energy conversation will give enormous attention to the revolution being propelled by the continued discovery and rapid development of unconventional oil

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1. *See* John S. Lowe, *The Future of Oil and Gas Law*, 49 WASHBURN L.J. 235, 235 (2010).

> Oil and gas jurisprudence has a bright future. We live in a hydrocarbons world, and our economic system is not going to change dramatically overnight; we will continue to live in a world powered and heated by hydrocarbons for at least the next twenty years. In fact, world demand for oil and gas is likely to increase substantially. Consequently, there will be a place for oil and gas law and oil and gas lawyers--who are among the people that make it possible for us to produce hydrocarbons--for at least that time.

For a definition of fossil fuels, *see Fossil Fuel,* SCIENCE DAILY, http://www.sciencedaily.com/articles/f/fossil_fuel.htm (last visited May 22, 2013) ("Fossil fuels are hydrocarbons, primarily coal, fuel oil or natural gas, formed from the remains of dead plants and animals.").

2. For a definition of hydrocarbons, *see Hydrocarbon*, SCIENCE DAILY, http://www.sciencedaily.com/articles/h/hydrocarbon.htm (last visited May 22, 2013) ("In chemistry, a hydrocarbon is any chemical compound that consists only of the elements carbon (C) and hydrogen (H). They all contain a carbon backbone, called a carbon skeleton, and have hydrogen atoms attached to that backbone."); *Definitions, Sources, and Explanatory Notes*, U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/TblDefs/pet_cons_psup_tbldef2.asp (last visited Oct. 23, 2013) (A hydrocarbon is "[a[n organic chemical compound of hydrogen and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, a constituent of natural gas) to the very heavy and very complex."); Judith E. Koons, *Earth Jurisprudence and the Story of Oil: Intergenerational Justice for the Post-Petroleum Period*, 46 U.S.F.L. REV. 93, 104 n.78 (2011).

3. Sara C. Bronin, *The Promise and Perils of Renewable Energy on Tribal Lands*, 26 TUL. ENVTL. L.J. 221, 223 (2013) (describing the seven basic sources of renewable energy namely, biomass, hydropower, wind, geothermal, solar, hydrogen, and ocean).

and gas resources, especially in Canada and the United States.[4] Because of the international nature of the energy industry, a valuable conversation should be truly global in nature, embracing voices and perspectives as well as reviewing current trends from a variety of countries around the world. Building on the highly acclaimed inaugural energy symposium, the second annual energy symposium organized by the Thurgood Marshall Law Review incorporated these essential components of a worthwhile energy conversation.

One remarkable revelation at the symposium titled *Powering the Future: A 21st Century Guide for Energy Practitioners* was the assertion by the keynote speaker, Chairman Barry Smitherman of the Texas Railroad Commission that the United States is on track to weaning itself from oil and gas imports from outside North America. Armed with convincing statistics, Hon. Smitherman likely alarmed people in petroleum exporting countries as he persuasively argued that shale gas production in Texas and other parts of the United States and tar sands development in Canada are leading the way to American energy independence.[5] Other sources seem to confirm the fact that U.S. energy independence, which has been touted by every American president since Richard Nixon,[6] and which appeared to be a pipe dream only a few years ago, is closer to the realm of reality.[7] Admonitions in the past that the U.S. should trade thoughts about the remote possibility of

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4. Jivaji Moré, *Come Shale Away: Navigating The "Business Friendliness" of Regulatory Environments in the Marcellus Shale and Albertan Oil Sands*, 33 NW. J. INT'L L. & BUS. 393, 395–96 n.9 and accompanying text (2013); Gal Luft, *To Drill or Not to Drill*, FOR. POL., May 27, 2013, http://www.foreignpolicy.com/articles/2013/05/27/to_drill_or_not_to_drill_saudi_arabia_united_states_oil (discussing a recent revelation by the International Energy Agency "that North America, buoyed by the rapid development of its unconventional oil industry, is set to dominate global oil production over the next five years."); Patrick C. McGinley, *Regulatory Takings in the Shale Gas Patch*, 19 PENN ST. ENVTL. L. REV. 193, 193 (2011) ("The discovery of enormous shale gas reservoirs in the United States has triggered what some have termed a "gas rush"--likened to the great Gold "rush" of the latter half of the nineteenth century in the American West.").

5. A copy of Chairman Smitherman's presentation is on file with the Law Review.

6. *See* Editorial, *Natural Gas Makes Natural Sense*, HOUS. CHRON., Sept. 29, 2011, http://www.chron.com/opinion/editorials/article/Natural-gas-makes-natural-sense-2195770.php (last visited Oct. 25, 2013) ("No fewer than eight presidents dating back to Richard Nixon have made pledges to put this country on the road to energy independence-and not a one has followed through."); Daniel Yergin, *Ensuring Energy Security*, 85 FOREIGN AFF. 69, 71 (Mar./Apr. 2006) (tracing the origin of the phrase and goal of energy independence to President Nixon who was reacting to the 1973 oil embargo).

7. *See, e.g.*, Donald H. Gold, *Natural Gas Boom Hints at U.S. Energy Sufficiency*, INV. BUS. DAILY, July 11, 2012, http://news.investors.com/economy/071112-617867-natural-gas-shale-output-promises-big-economic-benefits.htm (last visited June 8, 2013).

energy independence for the distinct probability of energy security now appear premature.[8]

Nevertheless, it may be prudent to view the likely outcome as one of attainable independence, even though this independence may not materialize due to other factors. For instance, U.S. gas reserves may have a high depletion rate.[9] Economic factors may also drive the export of some of the oil and gas produced in the U.S. to other countries while imports to the U.S. continue to maintain a healthy reserve in the country. Natural gas producers insist that continued production is largely dependent on finding higher prices for the product. In a world where export markets command a much higher price, it is almost certain that export of liquefied natural gas (LNG) will commence in full force in the next few years. While chemical companies had opposed the proposed export of shale gas, the opposition is gradually softening.[10] Continued opposition to export of natural gas is also anchored on strategic and environmental factors, but it is unlikely that the opposition forces would be able to overcome the strong push for export, with the concomitant economic and environmental gains in the exporting and importing countries.[11] The Department of Energy has approved two

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8. *See, e.g.*, Emeka Duruigbo, *Oil, Turmoil, and a Texas Export for Energy Security*, 37 T. MARSHALL L. REV. 231, 237 (2012).

9. *See generally*, L. David Roper, *Fossil-Fuels Depletion*, http://www.roperld.com/science/minerals/FossilFuelsDepletion.htm (last visited June 8, 2013).

10. *See, e.g.*, Molly Ryan, *Targa Resources' Newest Director Made a Name for Herself in Male-Dominated Industry*, HOUS. BUS. J., Feb. 22-28, 2013, at 5A, *available at* http://www.bizjournals.com/houston/print-edition/2013/02/22/targa-resources-newest-director-made.html?page=all ("I know there are certain chemical companies lobbying against (exporting LNG), but my personal opinion is you need a bigger market than the U.S. to keep the interest in investment in more gas supply. If we limited exports, we would have an oversupply of LNG that would depress prices. This would be a disincentive for upstream companies to explore and find more gas."); Molly Ryan, *Interview with Jim Gallogly, CEO of LyondellBasell*, HOUS. BUS. J., Mar. 1-7, 2013, at 16 ("We are fine with exporting LNG. The reason is because, first and foremost, the chemical industry is the largest exporting industry in the United States. So how can someone who lives by exports say, 'It's OK for us but not for anybody else?' Another reason we are OK with it is because the producer (of the gas) has to make a profit as well. If natural gas prices are too low, then they are going to quit drilling (which would eliminate the supply of natural gas). Our company has been dependent on (energy) imports forever and ever, and so it would be a bit selfish of us to say, 'Now that we have a supply of energy we are not going to share it.'").

11. *See* Matthew Philips, *Strange Bedfellows Debate Exporting Natural Gas*, BLOOMBERG BUSINESSWEEK, Aug. 22, 2012, *available at* http://www.businessweek.com/articles/2012-08-22/strange-bedfellows-debate-exporting-natural-gas (last visited June 8, 2013) ("For starters, oilman T. Boone Pickens and the environmental group Sierra Club both oppose exporting natural gas, though for very different reasons. Pickens's opposition is more strategic; the Sierra Club's stance is strictly based on its environmental concerns.").

permit applications for export of natural gas from the U.S. to non-Free Trade Agreement countries (which represent most of the world[12]) and there are expectations that more applications will be approved.[13] Finally, since oil and gas are global commodities, it is doubtful that any single country can attain or declare independence simply by increasing domestic production.[14]

This special edition of the law review continues the conversation begun at the symposium. Two of the authors (Dr. Richard Stoll and Dr. Saby Ghoshray) presented the papers that formed their article at the symposium. The other articles were submitted by accomplished authors who responded to a call for papers along the same lines of examining the recent changes and challenges in the energy arena with a view to providing answers or proffering solutions to global energy questions.

The first article is authored by Mr. Lanre Aladeitan, a lecturer and Ph.D. candidate at the Faculty of Law, University of Abuja, Nigeria. In his article, *Ownership and Control of Oil, Gas and Mineral Resources in Nigeria: Between Legality and Legitimacy*, Mr. Aladeitan notes that because the presence of mineral resources plays a significant role in a country's well-being, the issue of the ownership and control of these resources assumes a critical place in the society. He explores and critically examines various theories of ownership, including the "ownership-in-place," "non-ownership" and "qualified ownership" theories. Aladeitan also approaches the issue of ownership from the prism of the repository of the right, discussing private ownership, public ownership and a mix of both private and public ownership. Countries, as a matter of public policy,

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12. Free Trade Agreement (FTA) countries include all countries that have a free trade agreement with the United States namely, Australia, Bahrain, Canada, Chile, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, Mexico, Morocco, Nicaragua, Oman, Peru and Singapore. The FTA countries represent 9% of the World GDP, while non-FTA countries represent 91%. World GDP excludes the United States. International Trade Administration, *Free Trade Agreements*, http://trade.gov/fta/ (last visited June 8, 2013).

13. Matthew Daly, *Energy Dept. Backs Texas LNG Export Plan*, ASSOCIATED PRESS, May 24, 2013, http://theadvocate.com/news/business/6006131-123/energy-dept-backs-texas-lng (last visited Oct. 25, 2013); Keith Johnson & Ben Lefebvre, *U.S. Approves Expanded Gas Exports*, WALL ST. J. ONLINE, May 18, 2013, http://online.wsj.com/article/SB10001424127887324767004578489130300876450.html (last visited June 8, 2013); Peter Ker, *U.S. Shale Gas May Become Export Rival to Australia*, WATODAY, May 20, 2013, http://www.watoday.com.au/business/us-shale-gas-may-become-export-rival-to-australia-20130519-2jur8.html (last visited June 8, 2013).

14. *See* Syed Rashid Husain, *Oil to be a Fuel of Choice Amid Shale Revolution*, SAUDI GAZETTE, June 2, 2013, http://www.saudigazette.com.sa/index.cfm?method=home.regcon&contentid=20130602168214 (last visited June 8, 2013)

choose whether private persons can own oil and gas *in situ* or whether the State owns the resources, subject to the responsibility or expectation that these resources would be developed for the benefit of the entire population. Nigeria, which forms the focus of his article, has adopted State or public ownership.

The vesting of ownership and control of mineral resources in the government of Nigeria has had enormous, social, political, economic and environmental implications for the country. In view of the negative consequences that have accompanied the mismanagement of natural resources by government officials and their private collaborators, the author stridently argues against exclusive State ownership and control of these resources in Nigeria. Aladeitan pitches his tent with community groups and commentators that attack the legitimacy of laws that deprive citizens of ownership of natural resources deposited under their land. Accordingly, he favors the approach in the United States and Canada that allows landowners, including individuals and state and national governments, to be in control of mineral resources underneath their land and develop them as they please, subject to compliance with applicable environmental and tax regulations. The author concludes by stating that the quest by the people of the Niger Delta for ownership and control of the oil and gas resources located in their territory is a legitimate one and calls for revision of existing laws to accommodate their agitation for economic self-determination.

The second article, *Charting the Future Trajectory for Fracking Regulation: From Environmental Democracy to Cooperative Federalism*, is authored by Dr. Saby Ghoshray of the World Compliance Company, a prolific legal scholar and teacher. The article discusses the pursuit of natural gas development through the process of hydraulic fracturing, popularly known as fracking. This process has raised concerns and sparked a contentious national debate about possible contamination of underground water and clamor for environmental regulation. The article seeks to identify the most suitable and broadly acceptable approach to regulating this drilling method. Of particular pertinence is the locus of regulation, as questions arise as to whether fracking should be regulated at the federal level or left within the legislative domain of the gas-producing states. Determining the effective legislative approach also involves a resolution of the issue of the appropriate legal theories that should guide the law making. In that regard, the public nuisance doctrine, the trade secret protection argument, and the public disclosure rights paradigm all feature as important bases for formulating public policy on this subject. Dr. Ghosharay recommends, as a

suitable approach to fracking regulation, a variant of the technique of cooperative federalism that has been utilized in addressing other important environmental issues in the past. This approach carves out key roles for both the federal and local authorities. The federal government sets uniform national standards and each state selects the best way to meet the standards, taking into account its own peculiarities. The attraction of cooperative federalism is the co-existence of national standards and the absence of friction that would otherwise be engendered by states' resistance of federal encroachment into legislative territories traditionally reserved for or occupied by the states.

The third article, *Human Rights Implications Of Illicit Toxic Waste Dumping From Developing Countries Including the U.S.A. Especially Texas To Africa, In Particular, Nigeria*, is authored by Dr. Cyril Uchenna Gwam. Dr. Gwam is an expert in international law and a senior diplomat at the Nigerian High Commission in London, the United Kingdom. Dr. Gwam's article focuses on the human rights implications of the dumping of toxic waste in Africa from the United States and other developed countries. Drawing on treaty law and soft law, the author argues that toxic waste dumping results in significant international human rights violations. Death, displacement and ill health are some of the direct consequences of dumping. Accordingly, the article argues that when dumpers transfer toxic wastes to areas that lack the capacity to process them or make them less harmful, they infringe on the nearby residents' rights to life and safe and healthy working conditions, among others. Illicit dumping of hazardous substances is undertaken by multinational corporations (MNCs) that take advantage of poor countries who are driven by their economic plight to accept the substances. While the amounts of money presented to the recipient countries are enormous, relative to their financial position, they pale in comparison to the actual costs of properly disposing of these wastes in the countries in which they are generated. MNCs, therefore, have a huge incentive to continue with this activity, consistent with their principal goal of profit-maximization. Domestic opposition by an informed citizenry and strong environmental regulatory frameworks in the home countries of the MNCs also propel these companies to further look elsewhere for the disposal of the harmful substances. In his concluding section, the author laments that the objective of international treaties on transboundary movement of toxic waste, which is the ban of export of waste from the developed to the developing world, has remained unrealized. He notes that there is some room for the adjudication of cases arising from these

shipments in U.S. courts, but has reservations about the possibility of these cases getting to that point, due to the political and economic muscle of the multinational corporations behind the business of illegal dumping of toxic waste.

The fourth article, *Is China's International Economic Policy Targeting Africa?: And Why Should We Care?*, is authored by Dr. Richard J. Stoll, the Albert Thomas Professor of Political Science and an affiliated Scholar at the James A. Baker III Institute for Public Policy, Rice University. The article examines the observation made in some quarters that China is targeting Africa to meet its strong need for energy to fuel its rapid development. Indeed, China's interest in foreign energy presents opportunities and difficulties for Texas, where the oil and gas industry represents over 16% of the state economy. On the positive front, it creates an export market for oil produced in Texas. If China is truly targeting Africa, it would mean reduced opportunities for Texas companies in Africa but could also translate into reduced competition for Texas companies in other areas that China would not be focusing on because of its emphasis on Africa. Dr. Stoll notes that there are some good reasons that would ignite or accelerate China's interest in Africa. They include the high quality of African oil, water bodies that facilitate transportation, favorable petroleum production contracts, absence of loyalty to an international cartel among some of the African producers, location of oil fields offshore, far removed from theaters of internal unrest, and the fact that a sizeable portion of the world's known reserves has already been cornered and therefore out of China's reach. Remarkably, however, the author finds that the argument that Africa is a particular focus of China's economic activity is not supported by a rigorous analysis of available data on China's bilateral trade relations between 1990 and 2006. Notwithstanding the tremendous increase in trade between China and African countries, Africa still retains the position of the region with the smallest amount of trade with China.

The fifth and final article, *Frack You: A Cost-Benefit Analysis of the Fracking Controversy in Texas*, is authored by Kirk D. Willis, an alumnus of Thurgood Marshall School of Law in private practice in Dallas, Texas. The article juxtaposes the economic renewal flowing from natural gas fracking and the environmental concerns trailing it and queries whether the former overwhelms the latter. Fracking has created thousands of jobs, revived the chemical industry and revitalized the transport sector and generated enormous sums of money for government treasuries but has also raised concerns about water contamination, air pollution and pressure on

rural roads not designed to handle the level of heavy traffic emanating from water-tanker trucks. Moreover, while fracking presents environmental challenges, it also offers environmental benefits as the replacement of coal with cleaner-burning natural gas lowers the overall emission of greenhouse gases associated with climate change. The article also delves into possible conflicts surrounding water rights among competing uses and scarcity questions, especially as fracking involves the injection of millions of gallons of water. The author appears convinced that the economic side of the battle will prevail over the environmental side at the end of the day, as local, state and federal authorities would be unable to resist the lure of wealth accruing from fracking.

These articles reflect the relevance and complexity of contemporary issues pertaining to the energy industry. From production to pollution and from ownership to trade, regulators confront varying degrees of challenges that require careful navigation to accommodate disparate interests and keep our civilization largely untouched. The editorial board made a conscious choice to solicit for and select articles that present a practitioner's guide. Energy practitioners in various aspects of the industry, including litigation, arbitration, deal structuring, in-house practice, as well as regulators and investors would be well advised to absorb the lessons offered within this enlightening issue of the law review.