SHALE I STAY OR SHALE I GO? PENNSYLVANIA'S "MARCELLUS SHALE-SIZE" OF A DEBACLE OVER FRACKING SEVERANCE TAXATION

Amber R. Mondock†

INTRODUCTION

Severance taxation—a subject as dull as a rock. Bringing this topic of conversation to the table over a decade ago would have been relatively equivalent to singing a sweet rock-a-bye baby lullaby to the majority of Americans who would have replied "What is the big fracking deal?"—Yes, all puns intended. The extraction of natural gas has emerged to be known as "*the* environmental issue of our time."[1] Thanks to the beauty of technology, the once nearly impossible to reach natural gas goldmine in the United States is being brought to the surface, and the pockets of those lucky enough to drill and frack for it.[2]

Natural gas extraction is a dilemma over half the states in the United States face. Thirty-two states have implemented hydraulic fracturing and horizontal drilling[3] efforts to utilize America's emerging valuable energy

† Ave Maria School of Law, Juris Doctor Candidate (2015). Seton Hill University, Bachelor of Arts (2012). The author's hometown roots in Greensburg, Pennsylvania and encouragement from former State Representative of Pennsylvania Thomas A. Tangretti inspired the author to embark on this Note. The author extends many thanks to Professor Wendy Tenzer for her wisdom and always encouraging her to rock on. Above all, the author thanks her family, friends and canine companion Petey for their love, support, and for always being a fan even when this Note was just a pile of rocks.

1. Sandra Steingraber, *The Whole Fracking Enchilada: Violating the Bedrock, the Atmosphere, and Everything in Between*, ORION MAGAZINE (Sept./Oct. 2010), *available at* http://www.orionmagazine .org/index.php/articles/article/5839/. In fact, TIME Magazine went as far as naming hydraulic fracking "[t]he biggest environmental issue of 2011," a prestigious title many did not even know existed outside of the coveted person of the year. Bryan Walsh, *Mark Ruffalo, Anthony Ingraffea, Robert Howarth*, TIME (Dec. 14, 2011), *available at* http://content.time.com/time/specials /packages/printout/0,29239,2101745 _2102309_2102323,00.html.

2. *See* Gus Lubin, *How the Shale Gas Revolution Is Now Tapping U.S. Oil Reserves More than Five Times Those of Saudi Arabia*, BUSINESS INSIDER (Apr. 14, 2010), http://www.businessinsider.com /horizontal-drilling-will-boost-domestic-oil-production-shale-gas-2010-4?op=1.

3. Hydraulic fracturing (fracking) and horizontal drilling are two separate extraction techniques that have been united to produce an optimum natural gas yield. The traditional method of vertical drilling consists of a single upright well from one well pad. The horizontal method drills vertically until reaching

resource.[4] Hydraulic fracking is a relatively new process used to extract natural gas resources from underneath the earth's surface. Various positives and negatives emerge with the extracting of natural gas—many of which impact the local communities and citizens. The dangers of fracking are still not fully understood, and little if any regulation exists on how the process is conducted. "So while safety, land and mineral rights litigation often grabs the spotlight when discussing Marcellus Shale activities, taxes could be the final frontier in Marcellus Shale litigation."[5] Thus, the topic of severance taxation on the precious mineral, and the resulting potential policy impact in any given state is forthcoming.

The imposition of a severance tax to help ensure that costs associated with resource extraction are paid by the producers, essentially those companies extracting and selling the gas, rather than placing the burden on the people of the given state, is a route most states have adopted. However, one major natural gas producer has declined to enforce the severance tax on those extracting natural gas from its territory: Pennsylvania.

Drilling to What's Inside: The Contents

Part I of this Note proceeds through history, concisely examining Pennsylvania's development with natural gas extraction from the Marcellus Shale. Moreover, Pennsylvania's position as one of the major producers of natural gas in the United States coupled with its unique policy stance provide the background of why Pennsylvania stands out and is the subject of scrupulous debate on severance taxation.

Part II explains what severance tax is and how it works. Furthermore, this part takes a deeper look into the various severance taxation schemes that have been created by natural gas producing states, identifying three main methods: volume-based, value-based, and a hybrid combining both volume-

the production zone (where the gas is), and then hooks horizontally in various different directions. Thus, horizontal drilling allows more area under ground to be utilized by branching multiple horizontal wells off of one vertical line. Once drilled, hydraulic fracturing fluids are pumped at a high pressure to crack and open the rock allowing the natural gas to release. *See* Paul R. Tourangeau, *Natural Gas Development, Including Hydraulic Fracturing ("Fracking") and Horizontal Drilling*, 2013 ABA Sec. of Litig., *available at* http://www.americanbar.org/content/dam/aba/administrative/litigation/materials/aba-annual-2013/written_materials/10_1_natural_gas.authcheckdam.pdf.

4. Jacquelyn Pless, Natural Gas Development and Hydraulic Fracturing: A Policymaker's Guide, Nat'l Conf. of St. Leg. (rev. June 2012), *available at* http://www.ncsl.org/documents/energy /frackingguide_060512.pdf.

5. Stephen J. Blazick et al., *Taxing the Marcellus Shale: Energy Law*, The Legal Intelligencer, July 23, 2013, *available at* http://www.lexis.com (search "Taxing the Marcellus Shale"; then scroll down and select "Legal News" hyperlink).

and value-based. This will help to delineate the different manners by which natural gas can be taxed, in addition to the associated positives and negatives with each. Lastly, the second part will also explore two types of severance tax specific exemptions that are used with the various tax methods to afford cost reductions in certain situations.

Part III discusses the current policy in Pennsylvania legislation specific to natural gas extraction known as the impact fee. The purpose behind the levy will shed light on determining whether this is the solution Pennsylvanians are looking for when apportioning costs on the natural gas industry. Additionally, the tension between political parties as proponents and opponents to severance tax will be shown to largely shape the severance tax debate.

Lastly, Part IV offers a recommendation of what the best method is for Pennsylvania and its citizens to take towards natural gas producers within the state. This part discusses the current circumstances and events in the Commonwealth. Additionally, a reflection on similar events of the past and the pitfalls of industry on the community will be utilized to provide an additional perspective on the matter. Taken together these four parts will conclude upon Pennsylvania's enactment of a severance tax in order to ensure the state and citizens directly benefit from this hometown geological windfall and to promote the state's sustainability for years to come.

I. PENNSYLVANIA: STANDING OUT IN THE NATURAL GAS CROWD

A colossal underground sedimentary rock formation spanning 54,000 square miles between 300 and 6,000 feet below the Earth's surface has not only created a highly attractive energy industry, but has also made this Note possible.[6] While various rock formations, otherwise known as "shale plays," have been the source of natural gas extraction in the United States, one in particular spans thousands of feet below the surface of Pennsylvania, New York, West Virginia, and parts of Ohio: The Marcellus Shale.[7] The natural gas found within the cracks and pores of the rocks has taken millions of years of decomposition to develop this one-time immovable resource.[8] The

6. BRAD GILL, HOMEGROWN ENERGY: THE FACTS ABOUT NATURAL GAS EXPLORATION OF THE MARCELLUS SHALE, INDEP. OIL & GAS ASS'N OF N.Y. 2 (2008), http://www.tiogagaslease.org/images/IOGA_Marcellus.pdf.

7. *The Marcellus Shale Explained*, STATEIMPACT PA. (2013), http://stateimpact.npr.org/pennsylvania/tag/marcellus-shale/.

8. *Id.* (Explaining that the gas is found within the layers of rock in these cracks and pores, and why the rock must be fractured for the gas to escape).

Marcellus Shale, one of the first shale plays to be tapped, has been producing gas for over fifty years.[9] The untapped natural gas within the shale is enough to supply United States consumption for almost two decades.[10] Not until recently have the technological advances and developments of the horizontal drilling process allowed natural gas to be extracted in greater quantities and more efficiently. This innovation has made the industry more profitable and natural gas a more desirable, obtainable resource.

Buried up to 9,000 feet under the surface, approximately sixty percent of Pennsylvania's total land mass is above the Marcellus Shale.[11]

> Historically, natural gas exploration and development activity in Pennsylvania was relatively steady, with operators drilling a few thousand conventional (vertical) wells annually. Prior to 2009, these wells produced about 400 to 500 million cubic feet per day of natural gas. With the shift to and increase in horizontal wells, however, Pennsylvania's natural gas production more than quadrupled since 2009, averaging nearly 3.5 billion cubic feet per day in 2011.[12]

Despite years of policy debate amidst increased production levels, Pennsylvania has yet to impose a severance tax on natural gas.

In fact, this birthplace of the oil industry has never taxed oil production, coal mining, or any of its natural resources.[13] "Pennsylvania is the only one of the top 15 gas-producing states that doesn't have a gas tax . . . [I]t's one of 17 states that don't [sic] have a natural resource extraction tax of any sort."[14] While this resource remains untaxed, natural gas production has continued to boom within the boundaries of the state. "As of August 2012, about 6,400 Marcellus wells were drilled in Pennsylvania and nearly 2,500 additional

9. *Id.* (stating only the Barnett Shale in Texas was tapped before the Marcellus Shale in Pennsylvania); *see also Explore Shale*, PennState Public Broadcasting, http://exploreshale.org/# (last updated August 2014) (demonstrating that the gas was first extracted using horizontal drilling that produced fairly low amounts of gas at each well).

10. Francis A. Muracca II et al., *The Marcellus Shale Formation: Pennsylvania's Natural Gas Severance Tax Debate*, Jones Day Commentaries, Oct. 2010, *available at* www.jonesday.com/files/Publication/843a4d5b-f462-4ab3-8fe1-6e201507f234/Presentation/PublicationAttachment/d935965c-27aa-4411-87cd-e8e37fceb02b/Marcellus%20Shale%20Controversy.pdf.

11. Rose M. Baker & David L. Passmore, *Benchmarks for Assessing the Potential Impact of a Natural Gas Severance Tax on the Pennsylvania Economy*, Penn. St. Inst. for Res. in Training & Dev. (Sept. 2010), *available at* http://ssrn.com/abstract=1667022.

12. U.S. Energy Info. Admin, Horizontal Drilling Boosts Pennsylvania's Natural Gas Production (2012), http://www.eia.gov/todayinenergy/detail.cfm?id=6390.

13. *Id.*

14. Billy Hamilton, *Pennsylvania's Misadventures in Severance Taxation*, 58 State Tax Notes 517 (Nov. 15, 2010).

permits were provided. On average there are two wells per pad, or roughly 3,200 pads in the state currently."[15]

Undoubtedly, the fracking process has enabled Pennsylvania's success as a prominent natural gas supplier. This method of extraction involves a combination of vertical drilling which bends into horizontal drilling upon striking the shale formation, followed by injecting millions of gallons of water mixed with chemicals[16] and sand at a high pressure to break up the rock, releasing gas allowing it to flow up the vertical section to the surface.[17] Natural gas has the ability to change the energy sector in the United States, and Pennsylvania's prime real estate atop the Marcellus Shale will be a large contributor to this transformation.

II. SEVERANCE TAX: WHAT IS IT?[18]

Talks of taxation are often intimidating to individuals who are not familiar with the intricacies of the business. This wariness often leaves the topic as the "elephant in the room." Despite taxation's seemingly intimidating nature, when broken down, the term "severance tax" appears to be self-explanatory and largely unoriginal. Put simply, severance tax is a form of taxation placed on the individuals or, most likely, companies who *sever* or extract natural resources from the state. The tax is usually paid by the gas well operator who physically extracts the gas from below the surface, and also by anyone else with a royalty interest in that gas.[19] Severance tax has two defining characteristics that separate it from other tax forms such as property taxes. First, "severance tax is *on* the volume or value of the commodity *removed*, as assessed at the time of removal."[20] Second, after

15. *Explore Shale*, *supra* note 9.

16. Up to 600 chemicals make up fracking fluid, including known carcinogens and toxins such as lead, uranium, mercury, ethylene glycol, radium, methanol, hydrochloric acid, and formaldehyde. *What goes in and out of Hydraulic Fracturing*, GASLAND THE MOVIE: DANGERS OF FRACKING (2014), http://www.dangersoffracking.com [hereinafter GASLAND].

17. *The Pennsylvania Guide to Hydraulic Fracturing or "Fracking*," STATEIMPACT PA. (2013), http://stateimpact.npr.org/pennsylvania/tag/fracking/.

18. Natural resource severance taxation is subject to constitutional limits. Case law has evolved to establish four criteria that shall be satisfied to give validity to natural resource taxation under the commerce clause: (1) the tax must be applied to an activity that has a substantial nexus with the state, (2) the tax must be fairly apportioned, (3) the tax must not discriminate against interstate commerce, and (4) the tax must be fairly related to services provided by the taxing state. *See* Complete Auto Transit, Inc. v. Brady, 430 U.S. 274, 278 (1977); 5 WALTER HELLERSTEIN, AMERICAN LAW OF MINING § 194.02(1)(b) (2d ed. 2013).

19. Muracca II et al., *supra* note 10.

20. Public Serv. Co. v. FERC, 91 F.3d 1478, 1481 (D.C. Cir. 1996).

severance tax is applied to a unit of gas, such gas is never subject to severance tax again.[21] Severance taxes have been placed upon a variety of natural resources such as coal, timber, and natural gas.[22] The money generated from this tax is then often used towards maintaining the state's environment and infrastructure.

A. *Severance Taxation Schemes: The Methods to Solve the Madness*

Because severance taxation is a creature of the state, the manner of assessing the tax has taken various forms. Large natural gas-producing states such as North Dakota, Texas, and West Virginia are all case studies for the different methods.[23] Overall, three main methods of severance taxation exist, those being: (1) volume-based, (2) value-based, and (3) a hybrid combining both volume- and value-based.[24]

1. *Volume-Based Extraction Tax*

The volume-based extraction method involves monitoring natural gas wells. The tax is measured by a flat rate charged per thousand cubic feet of gas that is piped from an individual well.[25] A major disadvantage to this system is that fluctuating gas prices do not change the rate of tax.[26] "When the price of gas is relatively high, gas producers gain a windfall, while the Commonwealth is left without benefit from the higher prices."[27] Conversely, when prices are low, this tax appears to be a hefty cost for the producers.

2. *Value-Based Extraction Tax*

On the opposite end of the spectrum, there is value-based extraction tax. This tax on the value of gas extracted is applied to the value of the gas itself

21. *Id.*

22. Michael Wood, *Testimony on the Natural Gas Severance Tax Proposal Presented to the House Appropriations Committee Subcommittee on Fiscal Policy*, PA. BUDGET & POLICY CTR. 1–2, 8 (2009), http://pennbpc.org/sites/pennbpc.org/files/Michael%20Wood%20Testimony%20on%20natural%20gas%20severance%20tax%20040309.pdf.

23. North Dakota is volume-based. Texas is value-based. West Virginia is a hybrid. *See* Jacquelyn Pless, *Oil and Gas Severance Taxes: States Work to Alleviate Fiscal Pressures Amid the Natural Gas Boom*, NCLS, http://www.ncsl.org/research/energy/oil-and-gas-severance-taxes.aspx (last updated Feb. 2012).

24. Baker & Passmore, *supra* note 11.

25. *Id.*

26. Muracca II et al., *supra* note 10.

27. *Id.*

at the time of production prior to calculating costs of the producer such as the cost of distribution.[28] The positive side to the value-based tax is that it can account for ever-changing market prices. Additionally, it can accurately account for the amount of gas a well is producing.

However, there are also various cons when weighing the costs and benefits of the value-based tax. Revenue the state gains is subject to large fluctuation. Furthermore, the cost of imposing the tax is higher—all sales must be regulated which requires accounting and manpower rather than just a meter as used with the volume-based extraction tax.

3. *Hybrid Extraction Tax*

The hybrid extraction tax fuses both methods stated above to make some sort of a double taxation scheme. A low-based volume tax is charged, and the value of piped gas is also taxed.[29] This taxation scheme is not as volatile and is the most predictable out of all three methods. With this method, a happy medium can be established that allows high natural gas prices to be taken advantage of by the state. However, the state is not the only party to benefit in a hybrid tax. The natural gas companies will not face the threat of being "nickeled and dimed" when prices are substantially low.[30] Though similar to the previous methods, regulating the tax remains an issue because both wells and sales require oversight and monitoring. Furthermore, the costs of operating the tax is the most expensive to enforce because the costs from both value- and volume-based taxation are present.

B. *Exemptions: Making Natural Gas Producers Happy Everywhere*

Pennsylvania already affords natural gas companies various breaks in their tax schemes.[31] However, there are severance tax specific exemptions that can be enforced to make fracking in a specific state more attractive when coupled with any of the above taxation methods. These exemption methods are categorized as front-end or back-end.

28. *Id.*

29. *Id.*

30. *Id.*

31. *See generally* PA. BUDGET & POLICY CTR., GAS PRODUCTION BOOMS, DRILLERS' CORPORATE TAX PAYMENTS PLUMMET (2014), *available at* http://pennbpc.org/sites/pennbpc.org/files/Gas%20Production%20Booms%20Final%20w%20Append%20June%202014_1.pdf.

1. *Front-End Exemptions*

A front-end exemption reduces costs on the producer during the beginning stages of the fracking process within a state.[32] Horizontal drilling and hydraulic fracking are extremely costly projects that take a great amount of capital investment to begin.[33] A front-end exemption allows companies to get a tax break when they are in the initial stages of creating the well sites.[34] Therefore, costs to start the business are kept low and will increase once the fracking location is up and running.

2. *Back-End Exemptions*

Conversely, a back-end exemption works in the reverse order. The taxes are relaxed upon a given company at a specific drill location later on in the extraction process once the site and drilling for the gas have been completed. The purpose of this exemption is to allow a company the opportunity to cash in on the initial productions when gas is typically extracted in higher volumes.[35] Additionally, this exemption gives the company an incentive to keep old wells in operation that are producing lower gas yields, rather than destroying more land to create new well sites to make a greater margin of profit.[36]

III. Making the Match Between Natural Gas Production and Commonwealth Revenue

A. *Impact Fee: The Impact Pennsylvanians Are Looking for?*

From 2009 to 2011, natural gas extraction more than quadrupled in Pennsylvania.[37] Following this, in 2012 the Commonwealth's legislators came to an agreement on imposing what they defined as an "impact fee,"

32. Muracca II et al., *supra* note 10.

33. U.S. Energy Info. Admin, Review of Emerging Resources: U.S. Shale Gas and Shale Oil Plays 7 (2011), *available at* http://www.eia.gov/analysis/studies/usshalegas/pdf/usshaleplays.pdf.

34. Muracca II et al., *supra* note 10.

35. *Id.*

36. *Id.*

37. *Horizontal Drilling Boosts Pennsylvania's Natural Gas Production*, U.S. Energy Info. Admin. (May 23, 2012), http://www.eia.gov/todayinenergy/detail.cfm?id=6390; John Finnerty, *Talk of Taxing Natural Gas Resurfaces in Pa.*, The Herald (Dec. 26, 2013), http://www.sharonherald.com/news/local_news/article_01cb1d8f-e794-5043-81ee-b88143f5b1d1.html.

directly steering away from the proposition of a severance tax.[38] The impact fee is the natural gas producer's total fee based on a series of factors, including: "(1) the number of wells the producer operates in each municipality within each county that has imposed the fee; (2) the date each well was drilled or ceased production; and (3) the price of natural gas."[39] The impact fee starts the moment work begins on a well and continues for fifteen years no matter what amount of gas is being produced and whether or not a well is being used.[40] The levy adjusts yearly based on natural gas prices and the Consumer Price Index.[41] The fees are tied to the price of natural gas, meaning that taxation depends largely on the conditions of the market. However, this fee arrangement fails to account for the volume of gas extracted at each well.[42]

In 2012, horizontal drillers paid $45,000.00 per well, while vertical drillers paid $9,000.00.[43] This fee paid back $204 million to Pennsylvania for 2011, and $202 million for 2012 resulting in a lower return because the price of natural gas declined by a third in 2012.[44] "Sixty percent of the revenue stays at the local level, going to counties and municipalities hosting wells. The rest goes to various state agencies involved in regulating drilling and to the Marcellus Legacy Fund—which gets spread out around the state for environmental and infrastructure projects."[45] The impact fee has been propelled by the concept of avoiding tax increases coupled with the idea that there are already enough other forms of taxes imposed on the companies in

38. Susan Phillips, *Corbett Defends Impact Fee Over Severance Tax*, StateImpact Pa. (July 14, 2013, 5:06 PM), http://stateimpact.npr.org/pennsylvania/2013/06/14/corbett-defends-impact-fee-over-severance-tax/.

39. Blazick et al., *supra* note 5. Additionally, Act 13 authorized a retroactive impact fee on all wells drilled before 2012. *Id.*

40. Finnerty, *supra* note 37.

41. *The Oil and Gas Law of the Land: Your Guide to Act 13*, StateImpact Pa. (2013), http://stateimpact.npr.org/pennsylvania/tag/impact-fee/ [hereinafter *Act 13*]. The Consumer Price Index (CPI) is an economic indicator based on the monthly average prices of consumer goods and services. CPI's most popular use is to measure inflation. This helps businesses weigh whether economic decisions are appropriate and the government's ability to determine the effectiveness of its economic policies. *See* U.S. Dept. of Labor, Bureau of Lab. Stat., Consumer Price Index: Overview, http://www.bls.gov/cpi/cpiovrvw.htm#item6 (last modified Oct. 16, 2001).

42. Natasha Lindstrom, *Group Wants to Slap Fracking Industry with Severance Tax*, Shale Reporter (Dec. 16, 2013, 9:16 AM), http://www.shalereporter.com/government/article_986c5832-665c-11e3-aa93-001a4bcf6878.html.

43. *Act 13*, *supra* note 41.

44. *Id.*

45. *Id.*

the natural gas industry. Since its creation, the impact fee has raised more than $400 million for the state in only two years of its existence.[46]

B. *Severance Tax: All the States Are Doing It . . . Except Pennsylvania*

Indeed, it seems rather peculiar that Pennsylvania is the unique exception to severance taxation in all of the United States. As mentioned above, "[v]irtually every state in the nation with mineral resources, including natural gas, oil, coal, and even sand, collects revenue from the companies that extract these finite resources."[47] While the impact fee has been returning revenue into Pennsylvania in recent years, some are not convinced natural gas drillers are paying enough. Critics against the impact fee, and correspondingly in support of a severance tax, believe a severance tax is a small price to pay for Pennsylvania's role in the "extraction boom."[48]

C. *The Great Divide: It's a Politician's World*

The debate over the taxation of the Marcellus Shale in Pennsylvania has created a political divide among the Democratic and Republican parties. Republicans have largely followed suit in support of Republican Governor Tom Corbett's refusal to impose a severance tax, and the party continued to defend this stance throughout the 2014 Pennsylvania gubernatorial race. A seemingly convenient bonus to the fight against keeping severance taxation from ever passing in Pennsylvania has been the gain of allies in the natural gas industry. While those in the business of extracting natural gas from the state substantially profit, this has also given the companies the ability to attempt to benefit themselves by providing Governor Corbett's incumbent campaign with funding—particularly checks with a rather attractive amount of zeros.[49] Although this backdoor funding seems baffling, this type of "I'll scratch your back, if you scratch mine" mentality is common in politicking.

46. Blazick et al., *supra* note 5.

47. Michael Wood, *A Look at Other States Shows Marcellus Impact Fee Shortchanges Pennsylvanians*, PA. BUDGET & POL'Y CTR. (Aug. 2013), https://pennbpc.org/sites/pennbpc.org/files/PA-Impact-Fee-Compared-to-TX-WV-8-8-2013-final.pdf.

48. Laura Legere, *Marcellus Shale Coalition Warns Against Tax Proposals*, STATEIMPACT PA: NPR (Oct. 11, 2013, 11:25 AM), http://stateimpact.npr.org/pennsylvania/2013/10/11/marcellus-shale-coalition-warns-against-tax-proposals/.

49. *See* Susan Phillips, *Energy Companies Donate More than $1 Million to Corbett's Campaign Coffers*, STATEIMPACT PA: NPR (Oct. 29, 2014, 2:36 PM), http://stateimpact.npr.org/pennsylvania/2014/10/29/energy-companies-donate-more-than-1-million-to-corbetts-campaign-coffers/; Eric Boehm, *Corbett Squares off Against Dems' Push to Tax Fracking*, PA. INDEPENDENT (Oct. 14, 2013, 2:10 PM),

Conversely, "[f]or years, Democrats have said . . . that gas is an undertaxed source of revenue that could be curing myriad ills in the commonwealth."[50] Not surprisingly, numerous potential candidates for governor in Pennsylvania busily planned their attacks and methods on how to pass a severance tax aiming to defeat the Republican Party with a cause with which they are greatly entangled. In particular, Tom Wolf, United States Representative and the Democratic candidate for governor against incumbent Tom Corbett in the 2014 election, was committed to his position as an advocate of the need for severance tax in Pennsylvania. Wolf's campaign included a push for a five percent severance tax on those extracting from the shale play "mak[ing] sure that the citizens of the commonwealth share in a portion of the financial benefits of this geologic windfall."[51] This moderate tax on natural gas fracking has the potential to put $600 million into the state's funds in the first year.[52] A noteworthy increase, Wolf's severance tax plan would replace the current impact fee.

What could be worse for natural gas producers? The people of the Commonwealth disagreeing with the refusal to impose a severance tax on the extraction. "Up for reelection in 2014, Corbett trail[ed] every Democratic opponent but one in the polls and half the state's Republicans t[old] pollsters they wish he'd just drop out."[53] The three Democratic candidates that all polled better than Corbett were all in favor of a severance tax on natural gas production.[54] The apprehension of Corbett's reelection proved to be correct in November 2014 with Wolf's gubernatorial win. Corbett's fall from the governor's seat was a historic loss, as this is "the first time since 1954, an incumbent Pennsylvania governor did not either win re-election or cede

http://www.philly.com/philly/news/breaking/Corbett_to_square_off_against_Dems_pushing_to_tax_fracking.html.

50. Dennis Owens, *GOP Lawmakers Join Call for Higher Tax on Marcellus Drillers*, ABC27.COM, http://www.abc27.com/story/24245737/gop-lawmakers-join-call-for-higher-tax-on-marcellus-drillers (last updated Dec. 18, 2013, 9:09 AM).

51. Tom Wolf, *Developing the Marcellus Shale While Protecting Pennsylvania's Environment*, TOM WOLF FOR GOVERNOR (2014), http://www.wolfforpa.com/sections/page/marcellus-shale. *See also* Legere, *supra* note 48 (noting other campaigns pushing for the five percent severance tax).

52. *See* Paul J. Gough, *Marcellus Shale Coalition Stands Against Additional Shale Tax*, PITTSBURGH BUS. TIMES (Oct. 11, 2013, 7:55 AM), *available at* http://www.bizjournals.com/pittsburgh/blog/morning-edition/2013/10/coalition-stands-against-additional.html?s=print.

53. Bill Holland, *Court Cases and Severance Taxes: Some Dark Clouds out There for Pennsylvania Natural Gas Producers*, PLATTS: MCGRAW HILL FINANCIAL (Jan. 1, 2014, 12:01 AM), http://blogs.platts.com/2014/01/01/pa-tax/.

54. *Id.* The Democratic candidates, other than Tom Wolf, included Allyson Schwartz, Katie McGinty (both from the Philadelphia area) and Jack Wagner (from Pittsburgh). *See id.*

power to someone from their own party."[55] Additionally, a bipartisan movement in the House could add weight to tipping the scale towards severance taxation.[56]

The call for a severance tax is no longer solely a Democratic stance. Republicans have also joined the cause, including Representatives Gene DiGirolamo and Tom Murt who are proposing a 4.9% tax claiming to produce approximately $640 million in 2014.[57] DiGirolamo states that the severance tax is a "fair and reasonable" method to guarantee the state benefits from fracking without disrupting the industry operations within the state.[58] Both plans focus on keeping funds allotted to municipalities and counties directly impacted by the drilling as done with the impact fee while giving the remainder to education programs, the general fund, and environmental and infrastructure programs.[59]

However, the Marcellus Shale Coalition, an organization of representing the aims of the drilling companies, responded that the proposed tax policies by candidates for office have "embraced misguided, job-crushing polices that would throw a wet blanket on this positive, widespread progress."[60] Drilling companies do catch yet another break in Pennsylvania because their counterparts in other states pay local taxes on the production value of gas in addition to the state's severance tax. Conversely, companies within the Commonwealth are exempt from many of these taxes.[61]

One major point the Republican Party emphasizes is Pennsylvania's corporate net income tax. The companies pay a business tax and the employees of those companies are also contributing income taxes to the state.[62] Then again, another factor setting Pennsylvania apart is that the

---

55. Susan Phillips, *What Wolf's Win Means for Energy and the Environment*, STATEIMPACT PA: NPR (Nov. 4, 2014), http://stateimpact.npr.org/pennsylvania/2014/11/04/what-wolfs-win-means-for-energy-and-the-environment/.

56. *Finally, a Fair Natural Gas Tax Proposal*, STANDARDSPEAKER.COM (Dec. 24, 2013), http://standardspeaker.com/news/finally-a-fair-natural-gas-tax-proposal-1.1606271. Republicans Gene DiGirolamo and Thomas Murt accompanied by Democrats Pamela DeLissio and Harry Readshaw intend to propose a bill to establish a 4.9% severance tax. *Id.*

57. *See GOP Lawmaker Introduces Gas Drilling Tax*, PHILLY.COM (Dec. 12, 2013, 12:44 PM), http://www.philly.com/philly/blogs/harrisburg_politics/GOP-lawmaker-introduces-gas-drilling-tax.html.

58. Lindstrom, *supra* note 42.

59. *See* Owens, *supra* note 50.

60. Legere, *supra* note 48.

61. *See* PA. BUDGET & POLICY CTR. REPRESENTATION WITHOUT TAXATION: HOW NATURAL GAS PRODUCERS ESCAPE TAXES IN PENNSYLVANIA (2011) [hereinafter REPRESENTATION WITHOUT TAXATION], *available at* http://www.pennbpc.org/sites/pennbpc.org/files/How-Natural-Gas-Producers-Escape-Taxes-in-PA.pdf.

62. *See* Owens, *supra* note 50.

"other major energy-producing states with a severance tax do not have a corporate net income tax or have far more competitive tax structures than Pennsylvania's, which has among the nation's highest rates."[63] Although natural gas companies claim to pay the big bucks in corporate taxes, "[o]f the 783 companies to file corporate net income tax returns in 2008, 85% paid nothing in taxes."[64] Loopholes in the system allow many capital investors to completely avoid the corporate net income tax through limited liability companies and limited partnerships or by companies shifting income to other states.[65] Thus while the corporate net income tax is present, in reality it does not have much bite into company cash flow.

Furthermore, opponents contend that a severance tax would cause companies to leave the state. The Marcellus Shale Coalition believes that "[m]assive new energy taxes—in addition to the already enacted impact fee—would without question result in less capital investment into the Commonwealth, fewer jobs and even less revenue generated for the citizens of Pennsylvania."[66] However, even though shale production has doubled year after year, the job facilitation aspect failed. In 2010 to 2012, the prime drilling areas in the northeast and southwest were below the national average, declining by a half percent.[67]

Additionally, Republicans argue that the impact fee is better because money is kept out of the general fund. Doing so allows money to go towards local improvements, investments in public safety, and assures the money is going directly to affected communities.[68] However, revenue from the fee is currently distributed to state agencies similarly to what proponents of a severance tax plan to do.[69] The push to switch from the impact fee to severance taxation has been criticized as a "money grab by metropolitan lawmakers" attempting to thrust funds into their districts.[70] As stated, currently rural areas directly impacted by natural gas receive millions of

63. Gough, *supra* note 52.

64. REPRESENTATION WITHOUT TAXATION, *supra* note 61.

65. *Id.*

66. Legere, *supra* note 48.

67. Holland, *supra* note 53. While fracking has not been the pitfall in unemployment, which has been caused by many other factors, the job market has not seen the dramatic boost that was anticipated. *Id.*

68. Phillips, *supra* note 38.

69. *See Fee to Bring in Far Less Than Severance Tax*, ELLWOOD CITY LEDGER (Dec. 27, 2013, 12:15 AM), http://www.ellwoodcityledger.com/news/local_news/fee-to-bring-in-far-less-than-severance-tax/article_5638b089-711b-572d-ac2b-60ce4744e6cb.html (including the Fish and Boat Commission and the Marcellus Legacy Fund).

70. Finnerty, *supra* note 37.

dollars, and there is fear that such funds would disappear in these areas if the impact fee were replaced.[71] The imposition of a severance tax will allot 40% to remediate damages in areas where drilling occurs and the remaining 60% will be divided between "education, the Environmental Stewardship Fund, state parks and forests, the Pennsylvania Sunshine solar energy program and several other programs."[72] Moreover, "[t]he proposed law would allocate the same amount of money to affected communities, and use the balance—an estimated $400 million—to fund education, health and human services, and environmental programs in the state."[73]

The Pennsylvania Budget and Policy Center has confirmed that "[r]eplacing Pennsylvania's impact fee with a modest 4% severance tax could generate $1.2 billion annually by 2019–20, three times that of the current fee."[74] This is a notable margin. Pennsylvania's revenue from the shale ranks low on the totem pole among other comparable natural gas producing states.[75] As natural gas production increases, this gap of revenue will only grow larger between Pennsylvania's current impact fee compared to the revenue brought in by other states with severance taxes.[76] A severance tax that brings in much more money than an impact fee has potential to benefit all Pennsylvanians, not just a minute group.

IV. TAPPING INTO PENNSYLVANIA'S CIRCUMSTANCES & DRILLING TOWARDS THE ARGUMENT FOR SEVERANCE TAXATION

A. *Perfect Timing for Change or Simply a Coincidence?*

Since 2009, Pennsylvania has grown from an insignificant natural gas producer to an over eight billion cubic feet per day (Bcf/d) producer to become the United State's second most productive state in 2013.[77] Why has Pennsylvania seen such great success in the industry? A shallow Marcellus Shale formation making extraction less of a timely and costly endeavor, an abundance of fresh water from the state's rivers to facilitate the fracking

71. *Id.*

72. *Finally, a Fair Natural Gas Tax Proposal*, *supra* note 56.

73. Andrew Doggett, *Pennsylvania Legislators Propose Gas Drilling Tax*, BAKERHOSTETLER (Dec. 23, 2013), http://www.jdsupra.com/legalnews/pennsylvania-legislators-propose-gas-dri-17003/.

74. *See* Wood, *supra* note 47.

75. *Id.*

76. *Id.*

77. Holland, *supra* note 53. Pennsylvania has surpassed the state of Louisiana and is only ranked behind Texas who produces an impressive and largely untouchable twenty-two billion cubic feet per day of natural gas. *Id.*

process, rural communities in need of economic surplus welcoming the industry with open arms, and—you guessed it—the overwhelmingly attractive lack of severance tax are all factors illuminating Pennsylvania as a location for a natural gas boomtown.[78] To a drilling company, Pennsylvania is the pot of gold at the end of the rainbow. So what could go wrong with Governor Tom Corbett guarding the treasure-trove other than the loss of the governor seat to Wolf? A State Supreme Court ruling would be another detrimental event for natural gas companies, especially if it defeated Governor Corbett's coveted regulation on the treasure.

On December 19, 2013, the State Supreme Court of Pennsylvania ruled that portions of the impact fee law, Act 13, were unconstitutional.[79] The focus of the ruling was on local zoning restrictions; however, the ruling is sure to spark more movement in the ongoing legal battle over natural gas. The state constitution's guarantee of "clean air, pure water, and to the preservation of the natural, scenic, historic and aesthetic values of the environment" encompassed the reasoning for overturning portions of the law.[80] It is important to note why the referred-to Environmental Rights Amendment was added to the state constitution in the first place. Chief Justice Ronald Castille, writing the majority opinion, stated "Pennsylvania has a notable history of what appears, retrospectively, to have been a shortsighted exploitation of its bounteous environment, affecting its minerals, its water, its air, its flora and fauna and its people."[81]

The route Pennsylvania is headed down with fracking of natural gas draws many parallels with the coal and timber industries.[82] They say history often repeats itself. "If [Pennsylvania] just [has] this wild west approach to drilling, we're going to regret that."[83] This ruling could be the warning and detour Pennsylvania needed to change its policies toward a better outcome rather than following untaxed and unregulated failures of the coal and timber industry. While some view the ruling as having a potential "negative message to job creators and families who depend on the energy industry," others view it as a win for local influence—and as an

78. *Id.*

79. *See* Robinson Twp., Washington Cnty. v. Com., 83 A.3d 901, 1000 (Pa. 2013).

80. *Id.* at 913 (quoting PA. CONST. art. I. § 27).

81. *Act 13*, *supra* note 41.

82. *Id.*

83. Elizabeth Regan, *Democratic Gubernatorial Candidate Stop in City, Talks Jobs*, SUN GAZETTE (Dec. 3, 2013), http://www.sungazette.com/page/content.detail/id/600049/Democratic-gubernational-candidate-stops-in-city—talks-jobs.html?nav=5011 (alteration in original).

opportunity to re-craft the law, perhaps even to include a severance tax on the extraction of natural gas.[84]

B. *History: Does It Really Repeat Itself?*

If you "[c]hange the way you look at things, the things you look at change."[85] Here, your eyes have been reading and your brain has been focusing on understanding highly technological horizontal drilling, complicated tax schemes, strong-winded political arguments, and a stalemate in state government policy all fueled by the latest boom in the U.S. energy sectors—but why? We live largely in a world of *currency*, fixated on dollar signs and the present time. Life as we know it functions on minute-to-minute updates of what is happening *now*. Decisions are motivated by *money* and how to obtain the biggest piece of the pie. This is undeniably true, and it would be unrealistic not to weigh these factors so heavily in finding solutions to today's problems. The market functions in this manner utilizing supply and demand, current goods and services, and the latest, greatest information and technology. Doing so is not necessarily the wrong way, but this is not the only way to facilitate success.

While living in the now, the past and future often get pushed to the back of one's mind. A hundred years ago in Pennsylvania, when coal mining was one of the state's most desirable resources, very few, if any, were planning to combat acid mine drainage or abandoned mines from collapsing. Nor was it a concern that slate dumps of waste from their prosperity would still surround Pennsylvanians today. If this had been foreseen, perhaps a tax could have been developed to remediate "the costs of reclaiming our lands and restoring them to public use some 60 to 90 years after large anthracite mining concerns ceased operations . . . ."[86] The dilemma the Commonwealth faces with natural gas is eerily similar to that faced decades ago with anthracite mining. However, the main difference is an awareness of long-term environmental impact. Pennsylvania has the opportunity to learn from its mistakes. After all, history does tend to repeat itself. Reflecting upon

84. Andrew Staub, *Act 13 Ruling Favors Local Zoning*, PA INDEP. (Dec. 28, 2013, 11:50 PM), http://www.pottsmerc.com/general-news/20131228/act-13-ruling-favors-local-zoning.

85. Wayne W. Dyer, *Success Secrets*, THE DR. WAYNE DYER BLOG (Oct. 15, 2009, 5:45 AM), http://www.drwaynedyer.com/blog/success-secrets.

86. Michael A. MacDowell, *Natural Gas Tax Could Protect Pa.'s Environment*, TIMES LEADER, http://timesleader.com/apps/pbcs.dll/article?avis=TL&date=20131221&category=news&lopenr=312219782&Ref=AR (last updated Feb. 18, 2014, 5:41 PM).

lessons learned from coal production and accounting for future societal costs is simply a logical consideration.

The decline of coal production toward more clean and efficient energy sources paves the way for natural gas to be the energy source of the future. The Marcellus Shale region from southern New York through Pennsylvania to West Virginia "is the largest producing shale gas basin in the United States, accounting for almost 40% of U.S. shale gas production."[87] If companies have had the entrepreneurial skills to lower energy prices and the technological ability to increase extraction of natural gas, odds are they will not be subdued by the creation of a severance tax in the only current "state situated on a shale formation that does not levy such a tax on oil and gas drilling."[88] The current demand for domestic energy and the known potential for profit are factors too obvious for the industry to ignore.

C. *The Impact: Transition from Boomtown to Bust*

Throughout history, positive and negative impacts of the oil and gas industries have emerged. Most often the industries move into a rural area that has not seen such economic activity.[89] Wages increase, and high-paying jobs are abundant. The population rises, and the housing market improves. The positive changes are seen immediately, but the lesser-known negative effects of these fossil fuel booms come later after the area has been stripped of its resources. "Research now shows oil booms can yield long-term socioeconomic decline" as a consequence of post-production.[90] The negative effects on the area range from increased crime to lower levels of education and job loss in sectors other than drilling.[91]

Many people, normally young men, move to the area and work long hours and make good money. The clash of cultures along with grueling work schedules and more monetary resources have caused more violence among the community. The children that grow up in a boomtown community often forego higher education because they have the ability to

87. *Marcellus Region Production Continues Growth* , U.S. ENERGY INFO. ADMIN (Aug. 5, 2014), http://www.eia.gov/todayinenergy/detail.cfm?id=17411.

88. Doggett, *supra* note 73.

89. *See* Jonathan Thompson, *Research Shows Oil Booms Can Yield Long Term Socioeconomic Decline*, HIGH COUNTRY NEWS (Dec. 17, 2013), http://www.hcn.org/blogs/goat/study-oil-booms-yield-long-term-socioeconomic-decline.

90. *Id.*

91. *See id.*

make $60,000 right out of high school running trucks and drill rigs for the extraction companies.[92]

The true detriment often is not apparent because when drilling begins, the job market is flooded by the oil and gas industries. These jobs are readily available and pay good money compared to other industries in the area. When people change careers and leave their previous jobs, the demand for workers more often than not dies out. "While the natural gas industry's boom creates jobs locally, the bust cycle hits hard, as well."[93] When mass production fades, the lack of education will prevent workers from moving out of the area in search of a new form of sustainable living.[94]

Overall, history tells us that the creation of a "rainy day" trust fund saving for future costs of the questionable environmental and known socioeconomic turmoil that may arise from fracking should be on the agenda for state lawmakers.[95] After all, the fracking companies' claims of environmental safety have already been debunked over the past ten years with states linking well-water contamination and pollution to gas drilling.[96] What else could go wrong as time progresses when only 40,000 gallons of chemicals are used per fracturing?[97]

D. *Is Severance Tax in Pennsylvania Truly Between a Rock and a Hard Place?*

Natural gas "[p]roducers will howl, but the Marcellus Shale gas is so inexpensive to produce and so close to premium markets that most of the region's producers are making well above the 15% interest rate of return benchmark."[98] The notion that the natural gas companies cannot afford to break ground within the state in addition to paying a severance tax is flawed. The reality is that Pennsylvania's budget woes are looming—not those of the

---

92. *See id.*

93. Regan, *supra* note 83.

94. *See id.*

95. MacDowell, *supra* note 86.

96. *See* Kevin Begos, *Oil and Gas Drilling Pollutes Well Water, States Confirm*, THE ASSOCIATED PRESS (Jan. 8, 2014, 11:02 AM) http://usnews.nbcnews.com/_news/2014/01/05/22190011-oil-and-gas-drilling-pollutes-well-water-states-confirm?lite. *See generally* Eric Poole, *Unconventional Gas Well's Impact Increasing*, ELLWOOD CITY LEDGER (Dec. 27, 2013, 12:15 AM), http://www.ellwoodcityledger.com/news/local_news/unconventional-gas-wells-impact-increasing/article_936b7fd4-bd15-516d-98a0-89cbd5b4d976.html.

97. GASLAND, *supra* note 16.

98. Holland, *supra* note 53. These producers include EQT, Range, and Cabot Oil & Gas who all are seeing strong profit margins in the State.

natural gas companies who continue to break ground and drill. The state is facing a $1.4 billion deficit in 2014.[99] "The state's top spending official has projected that if the economy stays on its current track, the commonwealth could face a budget shortfall of up to $1.4 billion next year . . . due largely to rising health care and pension costs."[100] Virtually depleting all $835 million in revenue growth, Pennsylvania leaders will be called upon to find innovative ways to create incoming cash flow or lack of funds may impact areas such as education and social services.[101] However, House Democratic Appropriations Chairman Joseph Markosek believes that pension payments are not the reason behind the budget problem and blames the various types of business tax breaks and exemptions as the root of the problem.[102] No matter what the cause of the looming budget crisis may be, a natural gas severance tax is a potential solution to solving the question of how to balance the Commonwealth's budget woes.

Over the past four years, the U.S. Energy Information Administration has documented Marcellus Region production growth from two billion cubic feet per day (Bcf/d) in 2010 to exceeding fifteen Bcf/d as of July 2014.[103] The rock solid numbers do not lie. The natural gas industry is at a record high and so are the tax dollars Pennsylvania continues to leave on the table. To illustrate how little the current impact fee returns to the state, generally the amount paid over its fifteen-year lifespan will amount to less than two percent of the actual value of the natural gas being extracted.[104] Thus, the battle for severance tax has played a key role in causing the only time a Pennsylvania governor has not been reelected since state laws allowed a second term in the 1970s.[105]

Why impose the tax on the natural gas companies within the state? Many of the gas drillers Pennsylvania is sheltering from the lack of

99. Owens, *supra* note 50; Kate Giammarise, *Pennsylvania Budget Sees Big Shortfall*, POST-GAZETTE (Dec. 23, 2013), http://www.post-gazette.com/news/state/2013/12/23/State-budget-sees-big-shortfall/stories/201312230124.

100. Karen Shuey, *Experts Assess Politics in 2014; Nall* [sic] *Eyes in Pennsylvania Are on Governor's Race*, PROQUEST INFO. & LEARNING CO. (Jan. 3, 2014), http://insurancenewsnet.com/oarticle/2014/01/03/experts-assess-politics-in-2014-nall-eyes-in-pennsylvania-are-on-governors-ra-a-442689.html#.UtLpSv3NClI.

101. *See id.*

102. *See* Robert Swift, *Capitol Matters: Level Funding Is Not Easy*, THE DAILY REV. (Dec. 22, 2013), http://thedailyreview.com/opinion/robert-swift-capital-matters-level-funding-is-not-easy-1.1604785.

103. *Marcellus Region Production Continues Growth*, *supra* note 87.

104. *See GOP Lawmaker Introduces Gas Drilling Tax*, *supra* note 57.

105. *See* Shuey, *supra* note 100.

severance taxation are not even from the state.[106] Thus, the big businesses are not only keeping Pennsylvania's potential revenue, but they are also taking the money directly out of the state to be kept and spent elsewhere. So where are the natural gas companies retreating? A recent natural gas industry survey conducted by the Canadian Fraiser Institute states that Pennsylvania is regarded as "an unattractive place to do business" due to factors such as taxes and environmental regulations within the state.[107] Nearby severance taxation states, Ohio and West Virginia, were both ranked as being more attractive for business.[108]

However, this survey fails to address important facts about those states surrounding Pennsylvania. Hydraulic fracking is banned or under moratorium throughout the majority of New York, making Pennsylvania gas highly valuable.[109] West Virginia collects a 5% severance tax plus an additional fee of $0.047 per 1,000 cubic feet produced while Michigan collects a 6.6% tax.[110] Ohio collects a tax of $0.025 per 1,000 cubic feet of natural gas produced.[111] Thus, when every other state allowing fracking enforces a severance tax or some form of tax comparable or more costly than what is proposed in Pennsylvania, there seems to be nowhere to hide. The industry is thriving largely because of the valuable and enormous amount of gas deposits the Marcellus Shale Pennsylvania sits upon, which is not portable.[112]

Since natural gas is non-mobile and non-renewable, both the natural gas companies and the state stand between a rock and a hard place. The natural gas industry is forced to drill within the boundaries of Pennsylvania if it wants to tap into the great amount of resources the Marcellus Shale offers. Where there is natural gas, the drillers will come. Subsequently, Pennsylvania must realize that the natural gas industry is here to stay. There is no question that natural gas drillers are profiting from the natural gas of the

---

106. *See* Allyson Schwartz, *A Plan for "One Pennsylvania,"* ALLYSON SCHWARTZ FOR GOVERNOR 2014 (2013), *available at* http://allysonschwartz.com/wp-content/uploads/Schwartz-Shale-MC13.pdf.

107. Finnerty, *supra* note 37.

108. *Id.*

109. *See Current High Volume Horizontal Hydraulic Fracturing Drilling Bans and Moratoria in NY State*, FRACTRACKER ALLIANCE (Dec. 20, 2013), http://www.fractracker.org/map/ny-moratoria/.

110. Jeff Bell, *Proposed Oil and Gas Severance Tax Still Lower than Nearby States*, COLUMBUS BUS. FIRST (Dec. 10, 2013, 3:59 PM), http://www.bizjournals.com/columbus/news/2013/12/10/proposed-oil-and-gas-severance-tax.html?page=all. *See also* Finnerty, *supra* note 37. (West Virginia's additional fee directly contributes to workman's compensation debt).

111. Finnerty, *supra* note 37.

112. *See GOP Lawmaker Introduces Gas Drilling Tax*, *supra* note 57.

Marcellus Shale.[113] However, because Pennsylvania must part with its valuable natural resource for the benefit of the country and the business, the key is to ensure that Pennsylvanians benefit from the development of this industry too.

Accordingly, the imposition of a severance tax will increase state revenue and afford continual compensation to areas impacted by fracking. The increase in revenue will also allow investments in state infrastructure, education, environmental protection, and other important avenues for the benefit of the citizens. Notably, because of the recent process of fracking and horizontal drilling, there is an unforeseen damage to the environment. Money gained from a severance tax may also be used towards research and restructuring the environment. Pennsylvania deserves just compensation for the aesthetics and mineral resources of which it is being stripped.

Therefore, the imposition of a severance tax on natural gas to be paid for by companies stripping the natural resource permanently from the state is highly justified. Natural gas is an energy resource in need of development. A balance must be struck so that severance taxation does not force companies to drill elsewhere, but still assures that big business is paying their fair share to the state. Until Pennsylvania factors into its laws a method to tax the fracking and drilling of natural gas, the state and citizens will foot the bill for the natural gas companies' profit while being depleted of the resource, harmed by its production, and robbed of potential revenue.

CONCLUSION

In 2020, the United States is projected to become the world's largest net exporter of natural gas.[114] The Marcellus Shale's size and natural gas contents play a major role in the United States' movement towards energy independence. Whether or not Pennsylvania's state budget will cash in on the natural gas boom depends on the kinds of taxes it will impose. As discussed above, Pennsylvania has to choose from three options of severance taxation.[115] The best possible solution for Pennsylvania's natural gas woes is the value-based severance taxation.[116] Essentially a win-win for both the state government and the natural gas industry, when the value of natural gas

113. Nicholas Kusnetz, *Who Are America's Top 10 Gas Drillers?* PROPUBLICA (Sept. 1, 2011, 2:12 PM), http://www.propublica.org/article/who-are-americas-top-10-gas-drillers.

114. *See* Pamela M. Prah, *Fracking for State Dollars*, THE PEW CHARITABLE TRUSTS (Jan. 31, 2012), http://www.pewstates.org/projects/stateline/headlines/fracking-for-state-dollars-85899447047.

115. *See supra* Part II.A.1–3.

116. *See supra* Part IV.

goes up, both parties have the ability to profit. Conversely, when the value of natural gas goes down, corporations have the ability to stay afloat and not be drowned in taxes when their income is shortcoming.[117] Additionally, this coupled with a front-end exemption would allow a leverage period for natural gas companies to get their wells placed and in operation, especially if individuals still believe the start-up costs in addition to a severance tax are unduly burdensome.[118] However, only affording the companies an initial tax break would assure that they are no longer able to walk away without contributing monies back to the state.[119]

While the impact fee is a flat rate no matter how much gas is extracted, a severance tax will tax the actual value of the gas. Flat tax, regardless of any production, remains the same. If more companies are paying a flat tax, the state is guaranteed income. However, commodity values fluctuate. If a company is producing millions of gallons of natural gas, they are paying 9%. If a small business is producing a thousand gallons of gas, it is still paying 9%. Of course a big business would want a flat tax because the profit margin is higher—opening the field for more business. According to estimates of the Pennsylvania Budget and Policy Center, in 2013–14, a 4% severance tax would produce $532 million, totaling more than twice as much as the impact fee.[120] "By 2019–20, a tax would take in more than $2 billion, while the fee would add approximately $383 million to state coffers."[121] There is no question that both systems generate money—however, the key is the amount. Of course a business will favor a lower rate, but why should state lawmakers?

Already displaying itself as a case study of what accidents and disasters can happen if states allow rapid natural gas expansion—the last category Pennsylvania needs to place itself in is the state that additionally lost out on hundreds of millions of dollars due to irrational tax policies.[122] "No state can enjoy sustained economic prosperity if its roads and bridges—the facilitators

117. While the hybrid tax sounds good, this form is the worse for both parties. The state must pay more for this method of taxation to run properly. Additionally, natural gas companies would essentially be hit twice with taxes. Also, the volume-based method proves to be a win-loss when focusing on profits and losses. When prices are low, the government benefits only at the cost of potential industry collapse. When prices are high, the industry walks away with profits while paying little to the state for its resources. *See supra* Part IV.

118. *See supra* Part II.B.

119. *See supra* Part II.B.

120. *See Fee to Bring in far Less than Severance Tax*, *supra* note 69.

121. *Id.*

122. *See* Prah, *supra* note 114.

of wealth creation—are not sound."[123] Severance taxation has the ability to supply greater revenue than the current impact fee, and this money can be invested back into Pennsylvania for its infrastructures while the source of revenue strengthens the state economy.[124] Additionally, the state has an undeniable interest in offsetting potential environmental harm to the state that may surface in the future. "There are plenty of worthy causes that can benefit from the increase in revenues" that range from helping impacted communities, maintaining infrastructure so business may be sustained, education, environmental protection, and a rainy day fund to lessen future harm on the Commonwealth.[125] The list continues.

Is the current impact fee on the Marcellus Shale in Pennsylvania a deal to benefit citizens, or does it solely benefit companies seeing dollar signs at their ability to extract Pennsylvania's mineral resources? There is little doubt that the imposition of a severance tax in Pennsylvania would increase revenue substantially.[126] The longer Pennsylvania goes without a severance tax, the richer drilling companies become from Pennsylvania's failure to enforce a severance tax. Pennsylvania should impose a severance tax placing itself in a similar position to those in every other profitable natural gas producing state, rather than looking out for the oil and gas industry at the expense of its citizens and the state.

The severance tax is unquestionably more favorable to those who are collecting the tax. The state is rich in the resource. The company can extract a lot of what the state has to offer. The natural gas industry is a thriving sector of energy development—why does the state not capitalize on it? The natural gas industry "shale" stay where the largest amounts of the resource remain, a keystone state to the "whole fracking enchilada": Pennsylvania.[127]

123. MacDowell, *supra* note 86.

124. *See* Wood, *supra* note 47.

125. *Id.*

126. *Id.*

127. Steingraber, *supra* note 1.