FACTS, FICTION, AND PERCEPTION IN HYDRAULIC FRACTURING: ILLUMINATING ACT 13 AND *ROBINSON TOWNSHIP V. COMMONWEALTH OF PENNSYLVANIA*

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I. INTRODUCTION

From the news media to politicians, it is nearly impossible to have a discussion about energy issues without talking about hydraulic fracturing ("fracking" or "HF"). Depending on who is doing the talking, HF can be either a positive, game-changing energy innovation or the most dangerous environmental threat in recent years. The unquestioned reality is that HF has provided access to dramatically increased amounts of oil and natural gas previously deemed unrecoverable, or at least "uneconomic[]."[1] It is also true that the increased use of HF in the oil and gas sector has created several environmental risks.[2]

Hydraulic fracturing, combined with horizontal drilling, is the method used to recover most new oil and gas in the United States,[3] and it has led to a new hydrocarbon boom economy. Over the last two decades, oil and gas exploration and production has moved from conventional oil and gas extraction to more complex, more expensive methods. What is traditionally known as tight oil and tight gas is now flowing out of U.S. shale formations.[4]

As an extraction method, HF has created both excitement and concern. The debate about the balance between the economic benefits of hydraulic fracturing and the environmental risks of the process remain high profile and contentious.[5] Certain HF risks are well documented,[6] and additional concerns

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1 *See* Coastal Oil & Gas Corp. v. Garza Energy Trust, 268 S.W.3d 1, 31 (Tex. 2008) ("Easy-to-produce reserves are increasingly uncommon, and meeting spiking demand requires advanced techniques to make uneconomical fields economical."); Hannah Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 FORDHAM ENVTL. L. REV. 115, 122 (2009) ("[T]here is evidence that domestic producers in many regions of the United States have responded in full force to the demand for natural gas as technologies for unconventional extraction have improved.").

2 *Natural Gas Extraction—Hydraulic Fracturing*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/hydraulicfracture/ (last updated Feb. 11, 2013) (stating that hydraulic fracturing "operations can result in a number of potential impacts to the environment").

3 MARY TIEMAN & ADAM VANN, CONGRESSIONAL RESEARCH SERVICE, HYDRAULIC FRACTURING AND SAFE DRINKING WATER ACT ISSUES 2 (Apr. 15, 2011), *available at* http://www.arcticgas.gov/sites/default/files/documents/hydraulic-fracturing-and-safe-drinking-water-act-issues.pdf (stating that "more than 90% of new natural gas wells in the United States rely on hydraulic fracturing," according to the Independent Petroleum Association of America).

4 David E. Pierce, *Developing A Common Law of Hydraulic Fracturing*, 72 U. PITT. L. REV. 685, 685 (2011) ("In addition to improving the productive capacity of oil and gas wells, hydraulic fracturing is absolutely necessary to profitably develop oil and gas from shale rock formations and other 'tight' formations.").

5 *Natural Gas Extraction—Hydraulic Fracturing*, *supra* note 2 ("[C]oncerns associated with overall natural gas and shale gas extraction, including hydraulic fracturing, are already well known.").

include groundwater contamination from poorly constructed well-casings,[7] earthquakes,[8] air quality,[9] and climate change.[10] The legislative and regulatory regime that applies to the oil and gas industry, and hydraulic fracturing particularly, has been heavily scrutinized and debated.[11]

Through the course of the debate, two basic memes on hydraulic fracturing have emerged. On the anti-fracking side, the meme goes something

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[6] In addition, as explained in more detail below, the unfortunate reality is that there are many deeply ingrained views about hydraulic fracturing that are well documented, but not well supported.

[7] AM. PETROL. INST., HYDRAULIC FRACTURING OPERATIONS—WELL CONSTRUCTION AND INTEGRITY GUIDELINES 2, pt. 1 (1st ed. 2009), *available at* http://www.shalegas.energy.gov/resources/HF1.pdf ("Groundwater is protected from the contents of the well during drilling, hydraulic fracturing, and production operations by a combination of steel casing and cement sheaths, and other mechanical isolation devices installed as a part of the well construction process.").

[8] Earthquakes have generally been connected to HF wastewater underground injection. Katie M. Keranen et al., *Potentially Induced Earthquakes in Oklahoma, USA: Links Between Wastewater Injection and the 2011 Mw 5.7 Earthquake Sequence*, GEOLOGY (Mar. 26, 2013), http://geology.gsapubs.org/content/early/2013/03/26/G34045.1.full.pdf; *see also* Hannah J. Wiseman, *Remedying Regulatory Diseconomies of Scale*, 94 B.U. L. REV. 235, 245 (2014) ("Oil and gas waste disposal wells in seismically unstable areas have caused small earthquakes . . . ." (citing Keranen)). Minor earthquakes have been identified as possible from hydraulic fracturing operations, such as one example in Blackpool, UK. Garry White, *Cuadrilla Admits Drilling Caused Blackpool Earthquakes*, TELEGRAPH (Nov. 2, 2011, 12:36 PM), http://www.telegraph.co.uk/finance/newsbysector/energy/8864669/Cuadrilla-admits-drilling-caused-Blackpool-earthquakes.html. However, scientists studying the issue expect such earthquakes to be relatively minor, if possibly unpleasant. *See* Henry Fountain, *Add Quakes to Rumblings Over Gas Rush*, N.Y. TIMES (Dec. 12, 2011), http://www.nytimes.com/2011/12/13/science/some-blame-hydraulic-fracturing-for-earthquake-epidemic.html.

[9] *Oil and Gas Compliance Report*, PA. DEPARTMENT OF ENVTL. PROTECTION, http://www.portal.state.pa.us/portal/server.pt/community/oil_and_gas_reports/20297 (go to "Oil and Gas Compliance Report" and then select "Unconventional Only" in the dropdown menus. Select date range starting Jan. 1, 2008 for "date inspected from," and then get results and download spreadsheet).

[10] For example, the U.S. Department of Environmental Protection has identified the following "well-known" risks that accompany conventional and shale oil and gas extraction, including hydraulic fracturing:

- Stress on surface water and ground water supplies from the withdrawal of large volumes of water used in drilling and hydraulic fracturing;
- Contamination of underground sources of drinking water and surface waters resulting from spills, faulty well construction, or by other means;
- Adverse impacts from discharges into surface waters or from disposal into underground injection wells; and
- Air pollution resulting from the release of volatile organic compounds, hazardous air pollutants, and greenhouse gases.

Natural Gas Extraction—Hydraulic Fracturing, *supra* note 2.

[11] *See id.*

like this: "Fracking is the number one threat to the clean water, the clean air, and the climate." On the pro-fracking side, the meme is: "Natural gas is the clean, safe way to U.S. energy independence and prosperity." Both memes, of course, are loosely connected to valid concerns and opportunities, but neither provides any room for balanced analysis or risk assessment.[12]

A. Films Frame Facts on Fracking

There are serious and legitimate questions about hydraulic fracturing, and concerns have been raised since the process started gaining steam in the mid-2000s.[13] Unfortunately, the concerns raised have not always been based on good information. Like many environmental issues, there are two clearly defined camps that provide an almost partisan view of the issue.

The documentary film *Gasland* provided the first introduction to hydraulic fracturing for much of the country.[14] The film provided significant detail about the basic process and the experiences of some people living in regions impacted by the early natural gas boom in the Marcellus Shale.[15] The film became known primarily for its scenes where homeowners in the Marcellus region were shown lighting their tap water on fire.[16] The film implies that the fracking process caused natural gas to migrate into the wells of homeowners near drilling sites.[17]

Unfortunately, there are significant questions about whether the risks shown in the film are legitimately attributable to the oil and gas industry. The State of Colorado Oil and Gas Conservation Commission (COGCC), Colorado's agency charged with oversight of natural resources development, found "several errors in the film's portrayal of the Colorado incidents."[18] The COGCC stated: "*Gasland* incorrectly attributes several cases of water well contamination in Colorado to oil and gas development when our investigations

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[12] *See* David B. Spence, *Responsible Shale Gas Production: Moral Outrage vs. Cool Analysis*, FORDHAM ENVTL. L. REV., (forthcoming) (manuscript at 1), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2228398 ("[T]he debate over fracking and shale gas production has become polarized very quickly, in part because of the size of the economic and environmental stakes.").

[13] Wiseman, *supra* note 1, at 127 ("The important question with respect to regulation is whether these conflicts involve significant environmental and human health-related impacts that are not currently addressed by regulatory controls.").

[14] GASLAND (New Video Group 2010), *available at* http://www.gaslandthemovie.com/.

[15] *Id.*

[16] *Id.*

[17] *Id.*

[18] Memorandum from State of Colo. Dep't, Oil & Gas Conservation Comm'n, *available at* http://cogcc.state.co.us/library/GASLAND%20DOC.pdf.

determined that the wells in question contained biogenic methane that is not attributable to such development."[19]

The industry then responded with a dubious film of its own, the not so subtlety named *Truthland*.[20] The response film was funded in part by a $1 million grant from the Washington, D.C.-based industry group America's Natural Gas Alliance, which represents "North America's largest independent natural gas exploration and production companies," and was created to "work with industry, government and customer stakeholders to ensure continued availability and to promote increased use of our natural gas resources for a cleaner and more secure energy future."[21] Member companies include Anadarko, Cabot Oil & Gas, Noble Energy, Range Resources, XTO Energy, Southwestern Energy, Chesapeake Energy, and Pioneer Natural Resources. Reports indicate that the grant funding the film was given to Chesapeake Energy Corporation.[22]

In addition to questions about the funding sources for (and thus the motivation behind) the film, *Truthland* "has been panned by environmentalists for downplaying the risks of methane leaks and groundwater pollution."[23] Other reports noted, and it is obvious to anyone who has seen *Truthland*, that the film's protagonist, a self-proclaimed "Pennsylvania mom," is not as unbiased or objective as she may seem.[24] She states, "I'm not an engineer, a scientist, or a gas driller," but the scripted nature of her commentary clearly presents a pro-industry focus.[25]

The unfortunate reality is that both films have their truths and their flaws, yet public sentiment seems to be that one or the other is correct. Both are correct on some issues, and incorrect (or misleading) on others, and each film serves largely as evidence to confirm what supportive viewers already believe. For entertainment purposes, and for public relations purposes, such an outcome

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19 *Id.*

20 TRUTHLAND, http://www.truthlandmovie.com/ (last visited Mar. 9, 2014).

21 AMERICA'S NATURAL GAS ALLIANCE, http://www.anga.us/about-us# (last visited Mar. 1, 2014).

22 AMERICA'S NATURAL GAS ALLIANCE, http://anga.us/about-us/our-members# (last visited Mar. 1, 2014).

23 Lee Fang, *The Fracking Industry's Dishonest Response to "Gasland,"* NATION (Nov. 18, 2013, 2:24 PM), http://www.thenation.com/blog/177242/fracking-industrys-dishonest-response-gasland#.

24 Daniel Robison, *Screening of Pro-Fracking "Truthland" Turns Hostile*, INNOVATION TRAIL (July 31, 2012, 12:01 PM), http://innovationtrail.org/post/screening-pro-fracking-truthland-turns-hostile.

25 *See id.*

is proper (and desired). For policymakers, though, neither film is a complete source of the information needed for decision-making purposes.[26]

B. The Great Shale Debate

Nowhere has the debate been stronger than in the Marcellus Shale, which is largely in Pennsylvania, West Virginia, and New York. The Marcellus Shale is a "natural gas play"[27] made viable because of advanced hydraulic fracturing techniques, combined with horizontal drilling, which have made the gas found in the formation accessible and marketable.[28]

Despite calls for national regulation of oil and gas extraction conducted using hydraulic fracturing and horizontal drilling, virtually all regulation remains based in the state in which drilling is occurring. This is the historic model of oil and gas extraction, and that model has held true with the increased use of HF.

The HF process has been embraced in some states and rejected in others. New York, for example, has shunned the process and seems to view hydraulic fracturing as a revolutionary change to oil and gas extraction that warrants a revolutionary response.[29] The New York governor's office placed a moratorium on all hydraulic fracturing to study closely the potential ramifications of the process.[30] This has continued to delay issuing regulations that would allowed hydraulic fracturing in the state, and recent reports indicate

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[26] Hannah Wiseman, *Regulatory Adaptation in Fractured Appalachia*, 21 VILL. ENVTL. L.J. 229, 236 (2010) ("Regulatory agencies and policymaking bodies at the federal and state levels need more and better information to understand the composition of fracing materials as well as potential contamination routes and exposure pathways at the surface.").

[27] *See* U.S. ENERGY INFO. ADMIN., REVIEW OF EMERGING RESOURCES: U.S. SHALE GAS AND SHALE OIL PLAYS 4 (2011), *available at* http://www.eia.gov/analysis/studies/usshalegas/pdf/usshaleplays.pdf.

[28] *See* TIEMAN & VANN, *supra* note 3, at 1; *Hydraulic Fracturing of Oil & Gas Wells Drilled in Shale*, GEOLOGY.COM, http://geology.com/articles/hydraulic-fracturing/ (last visited Mar. 9, 2014).

[29] Joshua P. Fershee, *The Oil and Gas Evolution: Learning From the Hydraulic Fracturing Experiences in North Dakota and West Virginia*, 19 TEX. WESLEYAN L. REV. 23, 31 (2012).

[30] *See* STATE OF N.Y., EXECUTIVE ORDER NO. 41: REQUIRING FURTHER ENVIRONMENTAL REVIEW (Dec. 13, 2010), *available at* http://www.governor.ny.gov/archive/paterson/executiveorders/EO41.html (issued by Governor David Paterson); STATE OF N.Y., EXECUTIVE ORDER NO. 2: REVIEW, CONTINUATION AND EXPIRATION OF PRIOR EXECUTIVE ORDERS (Jan. 1, 2011), *available at* http://www.governor.ny.gov/executiveorder/2 (order continued by Governor Andrew Cuomo).

that the New York Environmental Conservation Department will not issue such regulations until at least April of 2015.[31]

In North Dakota, in contrast, the state legislature has embraced the process and has actively sought to protect the use of HF in the state.[32] North Dakota has a law titled: "Hydraulic fracturing—Designated as acceptable recovery process."[33] The law is clear support for the process:

> Notwithstanding any other provision of law, the legislative assembly designates hydraulic fracturing, a mechanical method of increasing the permeability of rock to increase the amount of oil and gas produced from the rock, an acceptable recovery process in this state.[34]

North Dakota's legislature also allocated $1 million "for the purpose of defraying expenses associated with possible litigation and other administrative proceedings involving the United States Environmental Protection Agency's effort to regulate hydraulic fracturing" to ensure their views could be funded all the way to court.[35] The state's legislature, at least, adamantly supports the process.[36]

Pennsylvania, though, provides perhaps the ideal example of the HF debate. Some of the state has embraced the process and the related economic opportunities that come along with natural gas production. Other localities have rejected hydraulic fracturing and have sought to stop oil and gas exploration and production. When local ordinances restricting the use of HF started to expand throughout the state, the Pennsylvania legislature revised the state's Oil and Gas Act[37] by passing Act 13, which (among other things) preempted local governments from restricting oil and gas permitting.

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[31] Freeman Klopott, *New York Decision on Fracking Regulations Delayed*, BLOOMBERG (Jan. 29, 2014, 3:41 PM), http://www.bloomberg.com/news/2014-01-29/new-york-decision-on-fracking-regulations-delayed.html.

[32] Joshua P. Fershee, *The North Dakota Publicly Traded Corporations Act: Branding Initiative Without a (North Dakota) Brand*, 87 N.D. L. REV. 1085, 1108 (2008).

[33] N.D. CENT. CODE § 38-08-25 (2012).

[34] *Id.*

[35] S. 2371, § 28, Spec. Sess. (N.D. 2011), *available at* http://www.legis.nd.gov/assembly/62-2011/special-session/sessionlaws/documents/BANKS.pdf#pagemode=bookmarks&CHAPTER579.

[36] Dale Wetzel, *ND Senator Rips $1M for EPA 'Fracking' Lawsuit*, BLOOMBERG BUSINESSWEEK (Nov. 17, 2011, 10:20 AM), http://www.businessweek.com/ap/financialnews/D9R2IC8O0.htm (stating that there was one vote against House Bill No. 1216 and one of only eight legislators opposed a resolution seeking a congressional limit to the EPA's power to regulate hydraulic fracturing).

[37] *See* 58 PA. CONS. STAT. §§ 2301–3504 (2014).

In response to Act 13, environmental groups, municipalities, and citizens sued to get the law overturned, and in December 2013, the Pennsylvania Supreme Court determined that many of the key provisions of Act 13 were unconstitutional.[38] As would be expected, industry groups and the state's administration decried the decisions, and environmental groups and municipalities with ordinances banning HF celebrated.

As with most such cases, the decision is likely to have impacts on the industry and municipalities directly addressed, as well as those beyond the immediate scope of the opinion. Because there is a majority outcome, but not a majority rationale, *Robinson Township* can be read in many different ways, and various stakeholders (and those of various ideologies) will do so. This Article does not purport to cover every possible outcome, and instead focuses on how assumed facts were used to justify the plurality opinion and concurrence. Those assumptions could create a detrimental impact on development, including sustainable development, in Pennsylvania, and could create complications for other important areas of state environmental regulation. This Article then suggests that a narrow and focused reading of the case presents a simple and more appropriate outcome, and argues that a debate covering the full scale of the energy issues implicated is necessary.

Part II of this Article reviews how Act 13 came to be and highlights the key provisions of the Act. This Part then discusses the lower court's decision in *Robinson Township*, and the different tack taken by the Pennsylvania Supreme Court on appeal. Part III explains the various popular sources of information about hydraulic fracturing, then focuses more narrowly on the key portion of the case by taking a critical look at the Pennsylvania Supreme Court's fact finding that led to the determination that Act 13 violated the Pennsylvania Constitution. Part IV explains how even well-meaning assumptions applied to highly complex and nuanced issues can cause more harm then good. This Part also discusses the scope of issues and considerations that should have been analyzed in reaching conclusions about the environmental impacts of Act 13 once the court decided to engage in the analysis (rather than deferring to the legislature on such policy matters). This discussion focuses particularly on the court's failure to consider the potential value of fuel shifting to natural gas and reduced coal extraction and consumption, which accompany hydraulic fracturing. The Article concludes that a renewed commitment to determining, then discussing, the pertinent facts related to hydraulic fracturing is both warranted and necessary.

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38 Robinson Twp. v. Commonwealth, 83 A.3d 901 (Pa. 2013).

II. ACT 13: FROM BIRTH TO *ROBINSON TOWNSHIP V. COMMONWEALTH OF PENNSYLVANIA*

A. Act 13: Amending Title 58 (Oil and Gas) of the Pennsylvania Consolidated Statutes

Before 2012, the Pennsylvania Oil and Gas Act[39] provided that mining operations requiring a state permit could not be completely excluded from a locality through local ordinances, but the law permitted the local government to regulate such operations using their zoning power.[40] A Pennsylvania appellate court in 2009 determined that the Oil and Gas Act did not preempt the field and allowed a township to enforce a zoning ordinance determining that the "challenged provisions are part of the land use process and not unique operational regulations that become pertinent only after land use approval is granted."[41] As such, the challenged provisions did not impermissibly "regulate the operation of oil and gas drilling in the Township in addition to location and physical configuration."[42]

Even before Act 13, local governments could not require additional drilling permits or bonds before beginning operations. The Oil and Gas Act did not, however, preempt local zoning ordinances, and prior to Act 13 municipalities could create zones where drilling would be allowed.[43] Thus, local governments could limit the locations of oil and gas exploration and production, but could not regulate the process of oil and gas drilling directly. Act 13 came to be in part because oil and gas companies complained to legislators about inconsistent local practices and requirements related to oil and gas production.[44] In 2009, the Pennsylvania Supreme Court held that the Oil and Gas Act precluded local municipalities from regulating oil and gas operations that were already covered.[45]

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39 58 PA. STAT. ANN. §§ 601.101–601.605 (2012) (repealed 2012).

40 Robert H. Freilich & Neil M. Popowitz, *Oil and Gas Fracking: State and Federal Regulation Does Not Preempt Needed Local Government Regulation Examining the Santa Fe County Oil and Gas Plan and Ordinance as a Model*, 44 URB. LAW. 533, 551 (2012) (citing Larock v. Bd. of Supervisors, 961 A.2d 916 (Pa. Commw. Ct. 2008); Montgomery Crossing Assocs. v. Twp. of Lower Gwynedd, 758 A.2d 285 (Pa. Commw. Ct. 2000); *In re* Miller & Son Paving, Inc., 636 A.2d 274 (Pa. Commw. Ct. 1993)).

41 Arbor Res. L.L.C. v. Nockamixon Twp., 973 A.2d 1036, 1046 (Pa. Commw. Ct. 2009).

42 *Id.*

43 *See* Huntley & Huntley, Inc. v. Borough of Oakmont, 964 A.2d 855 (Pa. 2009).

44 *See generally Legal Alert: A First Take on* Robinson Township v. Commonwealth, MCGUIREWOODS, LLP (Dec. 24, 2013), http://www.mcguirewoods.com/Client-Resources/Alerts/2013/12/Robinson-Township-v-Commonwealth.aspx (providing a detailed description of the case and its background).

45 Range Res. – Appalachia L.L.C. v. Salem Twp., 964 A.2d 869 (Pa. 2009).

The HF process was just starting to gain traction in the state, and the Pennsylvania legislature wanted to ensure that development of the Marcellus Shale continued. To assist with that goal, the legislature revoked the Oil and Gas Act and House Bill 1959, commonly referred to as "Act 13," which Pennsylvania Governor Tom Corbett signed into law on February 14, 2012.[46] The broad new act allowed for levies on new gas wells and the distribution of impact fees, and new regulations related to the operation of gas wells, but expressly preempted local regulation, with the modest exception of certain setbacks.[47] Beyond the setbacks, the preemption restricted local governments from enacting environmental laws and zoning code provisions related to oil and gas operations.[48]

B. Fighting Act 13: Round 1

On March 29, 2012, a group of petitioners, including seven municipalities, the Delaware Riverkeeper Network, and a doctor, challenged the constitutionality of Act 13.[49] The en banc court noted that Act 13, as a matter of law, required that all oil and gas operations be allowed in all zoning districts, even residential districts.[50] In a 4–3 decision, the court then determined that Act 13 (specifically 58 Pa. C.S. § 3304) violated "substantive due process because it allows incompatible uses in zoning districts and does not protect the interests of neighboring property owners from harm, alters the character of the neighborhood, and makes irrational classifications."[51]

The court determined that Act 13 required municipalities "to violate their comprehensive plans for growth and development," thus violating substantive due process.[52] The act does "not protect the interests of neighboring property owners from harm, alters the character of neighborhoods and makes

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46 58 PA. CONS. STAT. §§ 2301–3504 (2012).

47 *Id.*; *see also* Freilich & Popowitz, *supra* note 40, at 552.

48 58 PA. CONS. STAT §§ 2301–3504; *see also* Freilich & Popowitz, *supra* note 40, at 552.

49 Robinson Twp. v. Commonwealth, 52 A.3d 463, 468 (Pa. Commw. Ct. 2012) *aff'd in part*, *rev'd in part sub nom*. Robinson Twp. v. Commonwealth., 83 A.3d 901 (Pa. Commw. Ct. 2013).

50 *Id.* at 485.

51 *Id.*

52 *Id.* at 484. The court here thus provides a substantive due process right protecting citizens from arbitrary zoning ordinances in conflict with a comprehensive plan. *See id.* The U.S. Supreme Court long ago provided that a zoning ordinance that negatively impacts a landowner's desired property use will violate substantive due process rights if the regulation is "clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare." *See* Village of Euclid v. Amber Realty Co., 272 U.S. 365, 395 (1926). Thank you to Professor Hannah Wiseman for this important observation.

irrational classifications."[53] The court deemed the classifications "irrational" because Act 13 "requires municipalities to allow all zones, drilling operations and impoundments, gas compressor stations, storage and use of explosives in all zoning districts, and applies industrial criteria to restrictions on height of structures, screening and fencing, lighting and noise."[54]

The majority determined that 58 Pa. Cons. Stat. § 3304, which is part of Act 13, required local zoning ordinances be amended, which is a "different exercise of police power."[55] Zoning, said the court, is in the public interest for the purpose of development and land use that is consistent with "local demographic and environmental concerns."[56] However, § 3304 required zoning amendments that would normally need to be consistent with the comprehensive plan, and not designed to promote oil and gas operations, which the courts found to be "incompatible with the uses by people who have made investment decisions regarding businesses and homes on the assurance that the zoning district would be developed in accordance with comprehensive plan and would only allow compatible uses."[57] The court further stated that the rationale provided for Act 13 would allow the legislature to make

> similar findings requiring coal portals, tipples, washing plants, limestone and coal strip mines, steel mills, industrial chicken farms, rendering plants and fireworks plants in residential zones for a variety of police power reasons advancing those interests in their development. It would allow the proverbial "pig in the parlor instead of the barnyard."[58]

Next, the court explained that Act 13 provided only "general goals" that were "insufficient to give guidance to permit DEP to waive specific setbacks" provided for in other state laws. All seven judges agreed on this point, explaining,

> Given the lack of guiding principles as to how DEP is to judge operator submissions, Section 3215(b)(4) delegates the authority to DEP to disregard the other subsections and allow setbacks as close to the water source it deems feasible. Because the General Assembly gives no guidance when the other subsections may be waived, Section 3215(b)(4) is unconstitutional because it gives DEP the power to make

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53 *Robinson Twp.*, 52 A.3d at 484.

54 *Id.*

55 *Id.*

56 *Id.* at 483–84.

57 *Id.* at 484.

58 *Id.*

> legislative policy judgments otherwise reserved for the General Assembly. Of course, our holding does not preclude the General Assembly's ability to cure the defects by subsequent amendment that provides sufficient standards. Accordingly, because Act 13 provides insufficient guidance to DEP as to when to grant a waiver from the setback requirements established by the Legislature, Section 3215(b)(4) is unconstitutional under Article 2, § 1. The Commonwealth's preliminary objection is overruled and summary relief is entered in favor of the Petitioners on this count.[59]

A strong dissent took aim at the due process concern the majority supported. In contrast with the majority, the dissent argued that § 3304 of Act 13 would not

> eviscerate local land use planning. It does not give carte blanche to the oil and gas industry to ignore local zoning ordinances and engage in oil and gas operations anywhere it wishes. Section 3304 does not require a municipality to convert a residential district into an industrial district. Indeed, in crafting Section 3304 of Act 13, the General Assembly allowed, but restricted, oil and gas operations *based on, and not in lieu of, each local municipality's existing comprehensive plan.*[60]

The dissent then explained that § 3304 of Act 13 is, at its core, a zoning ordinance, which normally face substantive due process challenges from citizens claiming that ordinances are too restrictive, not too lax.[61] Still, the proper inquiry in both such cases, says the dissent, is whether the ordinance is a proper exercise of police power.[62] If it is, the court is bound to uphold the law.[63]

The dissent would have found that Act 13 was a proper exercise of police power because "[t]he law promotes the health, safety, and welfare of all Pennsylvanians by establishing zoning guidance to local municipalities that ensures the uniform and optimal development of oil and gas resources in this Commonwealth." The dissent explained that the act found a balance that provided "for the harvesting of those natural resources, wherever they are found, and by restricting oil and gas operations based on (a) type, (b) location,

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59 *Id.* at 493.

60 *Id.* at 495 (Brobson, J., dissenting).

61 *Id.*

62 *Id.*

63 *Id.*

and (c) noise level."[64] As such, this provision of the law was not "arbitrary, unreasonable, or wholly unrelated to the stated purpose of the law."[65]

The dissent then responded to the majority's "pig in the parlor" analogy, where it claimed that Section 3304 of Act 13 violated substantive due process because the section would let "oil and gas operations" (the majority's "pig") in zoning districts that allow for incompatible uses under a municipality's comprehensive plan, such as residential or agricultural use.[66] "The majority refers to these incompatible zoning districts as 'the parlor.'[67] Instead, the majority appears to argue that this particular pig belongs in an unidentified but different zoning district, which the majority identifies only as 'the barnyard.'"[68]

The dissent then stated that the problem with the majority's determination is that it equates this "pig" (oil and gas operations) with other industries, like steel mills and fireworks plants, which are not inherently location specific.[69] The dissent then notes that the natural resources of the state "exist where they are, without regard to any municipality's comprehensive plan."[70] Oil and gas deposits exist in residential areas and industrial districts without regard to the zoning district.[71] "What a local municipality allows, through its comprehensive plan, to be built above ground does not negate the existence and value of what lies beneath."[72]

In addition, several issues exist that are not within the focus of this Article. For example, the court determined that "the municipalities have standing to bring this action [to challenge act's constitutionality] because Act 13 imposes substantial, direct and immediate obligations on them that affect their government functions."[73] The court determined that there were no "specific legislative policy determinations" needed to determine the constitutionality of Act 13 so that such a decision was not a nonjusticiable political question.[74] Finally, the court determined that Act 13 was not an unconstitutional special law because it allowed oil and gas operations in all

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64 *Id.* at 497.

65 *Id.*

66 *Id.* at 494.

67 *Id.* at 494.

68 *Id.*

69 *Id*. at 495 (Brobson, J., dissenting) (stating that the pig that is oil and gas operations "can only operate in the parts of this Commonwealth where its slop can be found").

70 *Id.*

71 *Id.*

72 *Id.*

73 *Id.* at 475 (majority opinion).

74 *Id.* at 479.

zoning areas and allowing the public utilities commission to issue advisory opinions on proposed local ordinances was not a violation of the separation of powers doctrine.[75]

C. Round 2: The Supreme Court Speaks

The Pennsylvania Supreme Court issued the decision for the much-anticipated *Robinson Township v. Commonwealth*, in late 2013.[76] The decision answered, without resolving, several constitutional questions raised through challenges to Act 13. The 4-2 decision rejected almost all of the Commonwealth's argument and affirmed the decision below finding the statewide zoning regime was unconstitutional. There was no majority regarding the constitutional limit on legislative authority, with three Justices finding a constitutional obligation under the Environmental Rights Amendment, which was added to Pennsylvania Constitution in 1971, as the basis for overriding statewide zoning provisions (the plurality). Justice Baer, in a concurrence, reached his conclusion that the statewide zoning scheme violated substantive due process.[77]

The Pennsylvania Constitution's Environmental Rights Amendment, Article I, Section 27, provides,

> The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.[78]

The plurality determined, in a 162-page opinion, that the government has an obligation to avoid "unduly infringing or violating" a constitutional right and constitutional obligations bind all levels of government at the same time.[79] As such, the state cannot take away local authority to effectuate the localities' constitutional obligations.[80] Furthermore, the plurality found that section 27

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75 *Id.* at 487, 490.

76 Robinson Twp. v. Commonwealth, 83 A.3d 901 (Pa. 2013). For a detailed description of the case and one view of its likely implications, see MCGUIREWOODS, LLP, *supra* note 44.

77 *Id.* at 1007 (Baer, J., concurring).

78 PA. CONST. art. I, § 27.

79 *Robinson Twp.*, 83 A.3d at 952 (plurality opinion).

80 *Id.* at 977.

mandates that each branch of government consider in advance the environmental impact of any action implicated by that section.[81]

As discussed in more detail in Part III.B below, the plurality made a number of factual findings leading to the determination that Act 13 was an unconstitutional modification to existing oil and gas law because of the detrimental impact hydraulic fracturing in the Marcellus Shale would have on the environment.[82] The court further noted prior harms from other resource-intensive industries, namely coal and timber, as support for the "unquestionabl[e]" harm that would follow implementing Act 13.[83]

The harms, the plurality determined, thus necessitated overruling provisions in Act 13 that provided a statewide environmental oil and gas regulatory plan, allowed oil and gas operations in every zoning district, and granted DEP authority to grant waivers to statutory water setbacks.[84] A majority of the court also granted standing to a medical doctor who challenged chemical disclosure restrictions in Act 13, overturned and remanded the lower court's dismissal of the claim that Act 13 was an unconstitutional special law, and determined that declaratory judgment challenges to Act 13's eminent domain provisions were permissible.[85]

The dissenters argued that the majority was improperly substituting the court's judgment for that of the General Assembly.[86] The dissenters further noted that the majority grants powers to municipalities not guaranteed by the Pennsylvania Constitution: "[N]othing in our Constitution confers upon municipalities a vested entitlement in their delegated authority to manage land use or the right to dictate the manner in which the General Assembly administers the Commonwealth's fiduciary obligation to the citizenry at large relative to the environment."[87] Finally, the dissent questioned the factual determinations (and the lack of support for those determinations) that are the primary focus of this Article. Justice Saylor explained,

> Consistent with the overarching review standards and the separation-of-powers principle, we are to take the Legislature at its word when it said that it intended to "[p]ermit optimal development of oil and gas resources of this Commonwealth consistent with protection of the health, safety, environment and property of Pennsylvania citizens," 58 Pa.C.S. §3202, at

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81 *Id.* at 952.

82 *Id.* at 976.

83 *Id.*

84 *Id.* at 978, 981–83.

85 *Id.* at 925–26, 990–91.

86 *Id.* at 1010 (Saylor, J., dissenting).

87 *Id.* at 1012.

> the very least, in the absence of some compelling proof to the contrary.[88]

III. WHO DETERMINED THE "FACTS" ABOUT FRACKING?

The Pennsylvania Supreme Court's plurality opinion based its determination that Act 13 violated the Environmental Rights Amendment in significant part on a group of conclusions about hydraulic fracturing that were not found in the record. The Commonwealth filed an application for reconsideration of the opinion in part because of this fact.[89] As noted in the Introduction, much of the information for the general public seems to have originated in the films *Gasland* or *Truthland.* It is not clear where the court got their facts for the *Robinson Township* decision, but the court did not have the benefits of fact finding from the court below.

This lack of facts is critical to the decision because, as the plurality opinion explains, "[A] statute is presumed valid and will be declared unconstitutional only if the challenging party carries the heavy burden of proof that the enactment 'clearly, palpably and plainly violates the Constitution.'"[90] As discussed below, without further fact finding, the court should not have been able to meet that standard.

A. Balancing Perceptions Instead of Facts Will Have Bad Outcomes

Did the court require a balancing test that considers alternatives, as one should with hazardous waste and other operations that pose similar environmental risks? There is a valid argument that the court now requires a balancing test, and if it does mandate a balancing test, and the court's analysis in *Robinson Township* is deemed to be such a test, then a lot of facts about fracking have now been judicially determined in Pennsylvania. If this is the case, then the court's apparent facts, which are really based in perception, could be highly problematic.

The plurality opinion, anyway, determined that Pa. Constitution art. I, § 27, required a balancing test to determine whether the challenged legislative action was permissible. The opinion explained that a Section 27 claim does not

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88 *Id.* at 1013.

89 Application for Reconsideration of Opinions and Order for Pennsylvania Public Utility Commission, Robert F. Powelson, in his official capacity as Chairman of the Public Utility Commission, the Pennsylvania Department of Environmental Protection, and E. Christopher Abruzzo, in his official capacity as Secretary of Environmental Protection, Robinson Twp. v. Commonwealth, 83 A.3d 901 (Pa. 2013), *available at* http://www.marcellus-shale.us/pdf/Act-13-Reconsideration_1-2-14.pdf.

90 *Robinson Twp.*, 83 A.3d at 943 (plurality opinion) (quoting West Mifflin Area Sch. Dist. v. Zahorchak, 4 A.3d 1042, 1048 (Pa. 2010)).

automatically entitle challengers to relief, but that (as the citizens claimed) a "balancing must take place."[91] The court continued, "Clause one of Section 27 requires each branch of government to consider in advance of proceeding the environmental effect of any proposed action on the constitutionally protected features."[92] Further, when the government engages in an action, the action "must, on balance, reasonably account for the environmental features of the affected locale."[93]

Under *Payne v. Kassab*, in Pennsylvania "[i]t is manifest that a balancing must take place . . . ." [94] The *Payne* balancing test is to be conducted by the General Assembly and by any "governmental departments and agencies involved."[95] If harm to a natural resources area protected by section 27 can be avoided, that should be done "if possible, but, if there is no feasible alternative, [the area] may be utilized in such a way as to minimize the environmental or ecological impact of the use."[96] However, the *Payne* court did not actually conduct the balancing test or provide parameters for its use. Instead, the court determined that the act in question in *Payne* had "elaborate safeguards" that were "complied with," and thus there was not "a breach of the trust established by Art. I, § 27."[97]

The *Robinson Township* opinion further explained that the environmental rights in the first part of section 27 have been viewed as "inviolate," which "necessarily implies that economic development cannot take place at the expense of an unreasonable degradation of the environment."[98] The "state's plenary police power" is designed to promote environmental "welfare, convenience, and prosperity, [and] must be exercised in a manner that promotes sustainable property use and economic development."[99]

As such, the legislature's obligation of conserving and maintaining the environment are "tempered by legitimate development tending to improve upon the lot of Pennsylvania's citizenry, with the evident goal of promoting

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91 *Id.* at 940.

92 *Id.* at 952.

93 *Id.* at 953.

94 361 A.2d 263, 273 (Pa. 1976) (considering section 27 in the context of road projects under the authority of the Pennsylvania Department of Transportation).

95 *Id.*

96 *Id.*

97 *Id.*

98 *Robinson Twp.*, 83 A.3d at 954.

99 *Id.* (citing John C. Dernbach, *Taking the Pennsylvania Constitution Seriously When It Protects the Environment: Part I—An Interpretive Framework for Article I, Section 27*, 103 DICK. L. REV. 693, 718–20 (1999)).

sustainable development."[100] Section 27, the opinion explains, provides equal protection against acts that have immediate and severe public natural resources impacts as well as acts that have "minimal or insignificant present consequences that are actually likely to have significant or irreversible effects in the short or long term."[101]

The plurality then proceeded with applying (what the Commonwealth called, in an application for reconsideration) "the newly-minted [sic] 'balancing' test."[102] The Commonwealth challenged the balancing test itself, and then questioned the Court's "sweeping factual conclusions" that provided the basis for determining Act 13 did not meet Section 27's mandate.[103]

The Commonwealth also objected to the lack of a factual hearing or any issued findings of fact from the Commonwealth Court, which meant that the plurality's "broad factual statements" lacked "support in the proceedings below."[104] At a minimum, then, the Commonwealth argued that the Court should have remanded the case to the Commonwealth Court to develop "a full record and formal factual findings" in assessing whether Act 13 violated Section 27.

The issue about whether the case should have been remanded is beyond the scope of this Article. Instead, the focus here is on the Commonwealth's point about the plurality's factual findings. The facts the court cites are both conclusory and incomplete. The facts the court used to reach its related conclusions, raises environmental issues that should have triggered a need for additional evidence that could (and should) have been considered in assessing the lawfulness of Act 13.

For example, the court states, "By any responsible account, the exploitation of the Marcellus Shale Formation will produce a detrimental effect on the environment, on the people, their children, and future generations, and potentially on the public purse, perhaps rivaling the environmental effects of coal extraction."[105] This is a vast and sweeping set of conclusions that warrants analysis, part by part.

The statement begins, "[b]y any responsible account . . . ," making clear the court considers any evidence to the contrary of what follows is, by definition, an irresponsible account. The court continues, "the exploitation of the Marcellus Shale Formation will produce a detrimental effect on the

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100 *Id.* at 958.

101 *Id.* at 959.

102 Application for Reconsideration, *supra* note 89, at 4.

103 *Id.*

104 Application for Reconsideration, *supra* note 89, at 5.

105 *Robinson Twp.*, 83 A.3d at 976.

environment . . . ."[106] What is meant by detrimental effect obviously impacts the validity of the statement. If any change is a detrimental effect, then certainly, this is true. However, that is rarely the standard applied to such situations.

In the environmental law world, the standard is commonly related to the impact an undertaking will have on the environment, broadly construed, after considering reasonable alternatives and mitigation measures, as well as the option of taking no action.[107] Under the National Environmental Policy Act of 1969,[108] for example, the process requires an environmental assessment (EA), unless the agency chooses to skip the EA and proceed directly to an environmental impact statement (EIS).[109] If the agency chooses to do an EA, the result may lead to a conclusion that further review is warranted, thus requiring the creation of an environmental impact statement.[110] On the other hand, the EA may lead to a finding of no significant impact (FONSI).[111] If the EA leads to a FONSI, it is not a conclusion that there is no impact (or effect), but that it is not significant.[112] In contrast, the *Robinson Township* plurality seems to be saying here that any change is detrimental, and thus violates section 27, without the need for any further analysis.[113] That does not square well with common notions of what is environmentally permissible.

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106 *Id.*

107 Steven J. Eagle, *A Prospective Look at Property Rights and Environmental Regulation*, 20 GEO. MASON L. REV. 725, 735 (2013) (stating that NEPA "has been described 'as the environmental movement's Magna Carta,'" but "the Supreme Court has described it in more constrained fashion, as a statute requiring that agencies consider and disclose environmental considerations in their decision making . . . ."); *cf.* Uma Outka, *NEPA and Environmental Justice: Integration, Implementation, and Judicial Review*, 33 B.C. ENVTL. AFF. L. REV. 601, 604 (2006) ("The scope of the [NEPA] analysis must extend to direct, indirect, and cumulative impacts on health, as well as ecological, aesthetic, historical, cultural, economic, and social resources.").

108 42 U.S.C. §§ 4321–4370 (2012); *see generally National Environmental Policy Act (NEPA)*, U.S. ENVTL. PROTECTION AGENCY, http://www.epa.gov/compliance/basics/nepa.html (last updated June 25, 2012) (providing the "[b]asics" of NEPA).

109 40 C.F.R. § 1501.3(a) (2013) ("Agencies shall prepare an environmental assessment (§ 1508.9) when necessary under the procedures adopted by individual agencies to supplement these regulations as described in § 1507.3. An assessment is not necessary if the agency has decided to prepare an environmental impact statement.").

110 42 U.S.C. § 4332(C) (2012).

111 40 C.F.R. § 1501.4 (2013).

112 *Id.* § 1508.13 ("*Finding of no significant impact* means a document by a Federal agency briefly presenting the reasons why an action, not otherwise excluded (§ 1508.4), will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared.").

113 Robinson Twp. v. Commonwealth, 83 A.3d 901, 976 (Pa. 2013).

The plurality then expands the scope of its statements, noting that the detrimental effect will harm "the people, their children, and future generations, and potentially on the public purse, perhaps rivaling the environmental effects of coal extraction."[114] Again, it is not clear what the harm is, other than the fact that fracking is "detrimental."[115] It is most certainly accurate that harms to the water supply, for example, could cause harm to current and future generations, but that is not a risk unique to fracking.

Perhaps the lack of a Pennsylvania severance tax (and a modest impact fee[116] that may or may not survive[117] the *Robinson Township* decision), could lead to the conclusion that there will be harm to the public purse.[118] Still, even without one, HF has and can continue to increase state revenues through income taxes and consumption taxes in the state. Though there are serious, and legitimate, questions about how many jobs HF has added to the economy, it is also clear that some have been added.[119]

The plurality gives a nod to the idea there may be some balancing necessary, even under the Environmental Rights Amendment: "Again, we do not quarrel with the fact that competing constitutional commands may exist, that sustainable development may require some degradation of the corpus of the trust, and that the distribution of valuable resources may mean that reasonable distinctions are appropriate."[120]

The court then explains that there really is not a balancing test necessary where "economic and energy benefits" are the "only considerations."[121] However, the court determined that the Pennsylvania Constitution does not allow the court to consider economic and energy benefits as offsets to environmental damage where there is a failure to provide

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114 *Id.*

115 *Id.*

116 MICHAEL WOOD, PA. BUDGET & POL. CTR., A LOOK AT OTHER STATES SHOWS MARCELLUS IMPACT FEE SHORTCHANGES PENNSYLVANIANS (Aug. 8, 2013), *available at* https://pennbpc.org/sites/pennbpc.org/files/PA-Impact-Fee-Compared-to-TX-WV-8-8-2013-final.pdf.

117 Michael L. Krancer & Margaret Anne Hill, *Robinson Township Decision: A Few Winners and Lots of Losers*, LEGAL INTELLIGENCER (Jan. 17, 2014), *available at* http://www.blankrome.com/index.cfm?contentID=37&itemID=3240 ("The court's decision puts the fate of Act 13's impact fee in jeopardy as the issue of the severability of that portion of Act 13 has been remanded to the Commonwealth Court.").

118 *Id.*

119 FRANK MAURO ET AL., MULTI-STATE SHALE RESEARCH COLLABORATIVE, EXAGGERATING THE EMPLOYMENT IMPACTS OF SHALE DRILLING: HOW AND WHY, PA. BUDGET & POL. CTR. 13–25 (Nov. 21, 2013), *available at* https://pennbpc.org/sites/pennbpc.org/files/MSSRC-Employment-Impact-11-21-2013.pdf.

120 Robinson Twp. v. Commonwealth, 83 A.3d 901, 981 (Pa. 2013).

121 *Id.*

"adequate protection to existing environmental and habitability features of neighborhoods in which they have established homes, schools, businesses that produce or sell food and provide healthcare, and other ventures, which ensure a quality of human life."[122] It is worth noting that the court had previously determined that a statutory (not constitutional) land surface protection obligation was not sufficient to justify a potential state veto power over oil and gas development in state parks and forests.[123]

The plurality's determination that hydraulic fracturing is inherently bad is repeated throughout the opinion. The HF process is said to "substantially diminish[] natural and esthetic values of the local environment."[124] Further, the court states that passing Act 13 "sanctioned a direct and harmful degradation of the environmental quality of life in these communities and zoning districts."[125] In addition, the opinion states Act 13's "outright ban on local regulation of oil and gas operations . . . propagates serious detrimental and disparate effects on the corpus of the trust" and "permit[s] development with such an immediate, disruptive effect upon how Pennsylvanians live their lives." [126] As such, the court must "hold that the degradation of the corpus of the trust and the disparate impact on some citizens sanctioned by Section 3304 of Act 13 are incompatible with [Section 27]."[127]

This tone and tenor is not limited to the plurality opinion. The concurrence even cites to the plurality opinion, using some of the factual basis the plurality uses in support of the concurrence's alternative basis for the outcome. The concurrence quotes the plurality:

> A second difficulty arising from Section 3304's requirement that local government permit industrial uses in all zoning districts is that some properties and communities will carry much heavier environmental and habitability burdens than others. . . . . This disparate effect is irreconcilable with the express command that the trustee [of the Commonwealth's environmental resources] will manage the corpus of the trust for the benefit of "all the people."[128]

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122 *Id.*

123 Belden & Blake Corp. v. Commonwealth, 969 A.2d 528, 533 (Pa. 2009) ("[A] property owner's interests and rights cannot be lessened, nor their reasonable exercise impaired without just compensation, simply because a governmental agency with a statutory mandate comes to own the surface.").

124 *Robinson Twp.*, 83 A.3d at 963.

125 *Id.* at 980.

126 *Id.* at 980–81.

127 *Id.* at 981.

128 *Id.* at 1007 (Baer, J., concurring).

The concurrence further explains, Act 13 "sets absolute standards rather than minimal guidelines that all municipalities and residents must abide by, without providing for any remedy when the inevitable damage to the enjoyment of private property occurs."[129] Note, again, that part of the basis for this opinion is the "inevitable," though unspecified "damage" that will be caused by hydraulic fracturing.[130] The concurrence further stated, "[i]ndividual landowners and municipalities alike will be unable to acclimatize to the fledgling world of Marcellus Shale hydrofracturing and drilling and the continuing fluidity of its development, and will be unable to seek recourse for the *unquestionable damage* to their private enjoyment of property."[131]

As such, when combining the plurality opinion's determination that extracting natural gas from Marcellus Shale causes "a detrimental effect on the environment, on the people, their children, and future generations,"[132] the Pennsylvania Supreme Court could very well deem anything related to hydraulic fracturing through a lens of inevitable harm. This determination plays well with those seeking to expand the public trust doctrine, at all costs, especially those seeking to cease as much development of any kind as possible. Although the preceding view is not the only plausible outcome, it is a significant possible outcome.[133]

B. The Counterbalance: What Else the Court Should Have Considered

If the court believes a balancing test is necessary, the court should have at least considered other rationales for supporting hydraulic fracturing for natural gas. Although there is a solid argument this was the role of the legislature,[134] the test must occur at some level. There are divergent views on the value of natural gas, for example, as compared to coal, but the court failed

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129 *Id.* at 1008.

130 *Id.*

131 *Id.* at 1007 (emphasis added).

132 *Id.* at 976.

133 *See* John C. Dernbach et al., Robinson Township v. Commonwealth of Pennsylvania*: Examinations and Implications*, Widener Law School Legal Studies Research Paper Series No. 14-10, at 9 (Mar. 2014), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2412657 (stating that the even though there was not majority agreement on the rationale, the plurality "reinforces environmental constitutionalism insofar as it represents an authentic attempt to engage the text of the Environmental Rights Amendment. . . . In so doing, the court provided a framework for understanding and applying the amendment that will likely be considered for decades").

134 *Robinson Twp.*, 83 A.3d at 1010 (Saylor, J., dissenting) ("This Court regularly acknowledges that the Legislature possesses superior resources for information-gathering, debate, and deliberation in the policymaking arena.").

to even remotely address alternative views regarding the potential environmental benefits of increased natural gas production in Pennsylvania.[135]

Recall the Commonwealth's constitutional mandate under Section 27: "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment." This mandate does not operate in a vacuum. The status quo must be compared to future alternatives, and the questions of the state's environmental health must include an inquiry into whether the potential harms from hydraulic fracturing will reduce harm from exploitation of other resources.

Oddly enough, it appears that neither the Commonwealth nor any of the amici supporting Act 13 in the case sought to make the argument that hydraulic fracturing for natural gas, despite its risks, provides environmental benefits that warrant state action to facilitate natural gas extraction through the process. As the court noted, the benefits presented were only the energy and economic benefits of the process. This is only half the story.

To be clear, even if the court had considered the potential environmental benefits of dramatically increased natural gas production, the decision may not have changed, but a proper balancing test requires that the court balance the equities. Furthermore, given that the majority of the court did not decide this balancing and analysis was the legislature's role, the court should have sought the evidence to do its own proper analysis.[136] Once the court waded into balancing test waters, there should have been a discussion about where natural gas fits in the state's energy mix and how that might impact the environment.

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[135] There are some who do not believe that the comparison to coal is a key issue here, and instead believe the more important issue from the plurality opinion is "the purpose of constitutional-enshrinement of environmental rights and public trust duties in the first place – to promote environmental protection and advance individual rights to a quality environment for both present and future generations." Dernbach, *supra* note 133, at 9 ("While some contest the comparison of shale gas with coal, there is a larger point here."). These, too, are important points, but the role both coal and other fuels play in the modern world is an essential part of that discussion.

[136] Justice Eakin would have found that it was the role of the legislature to do the balancing test. He explained,

> The means necessary for making these decisions properly lies in the processes of a different branch of government—our role is to assure those decisions do not violate the Constitution. Our role is not inclusive of balancing all the factors on which a political decision must be made. We have a constitutional duty to afford great deference to the body of government given the power by the Constitution to make decisions about such matters. We should not complain of incursions on judicial independence and of refusals to respect our role when we in turn act legislatively

Robinson Twp., 83 A.3d at 1015–16 (Eakin, J., dissenting).

The court could have started here: Natural gas is unquestionably cleaner burning than coal.[137] From a climate perspective, burning natural gas produces roughly half the amount of carbon dioxide as burning coal does.[138] Still, producing natural gas also has what is known as leakage, where some of the methane escapes during the drilling process or during transportation.[139] If there is too much leakage, the cleaner burning benefits are lost.[140]

The *Proceedings of the National Academy of Sciences* (*PNAS*) determined that using natural gas to generate electricity and as a transportation fuel is better for the climate than conventional resources as long as leakage rates are low.[141] The study found that leakage rates below 3.2% at power plants makes gas preferable to coal.[142] A 2009 EPA estimate (that is subject to debate[143]) calculated average leakage at 2.4%, which would make natural gas sufficiently preferable to coal.[144] Add in the non-climate environmental benefits of lower mercury levels and other air pollutants that burned coal emits, and there is a good environmental case for choosing natural gas over coal.[145]

On the other hand, at least as to climate concerns, there is some evidence that using natural gas might be worse than coal in the transportation sector, and much closer to coal than some studies suggest.[146] Another study from MIT "concludes that there is a benefit from switching to natural gas, all

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[137] Bryan Walsh, *Natural Gas and the Invisible Spill: How Bad Is Methane for the Environment?*, TIME (Apr. 10, 2012), http://content.time.com/time/health/article/0,8599,2111562,00.html.

[138] *Id.*

[139] *Id.*

[140] *Id.*

[141] Ramón A. Alvarez et al., *Greater Focus Needed on Methane Leakage from Natural Gas Infrastructure*, 109 PROC. NAT'L ACAD. SCI. 6435, 6435 (2012), *available at* http://www.pnas.org/content/109/17/6435.full.pdf+html.

[142] *Id.* at 6437.

[143] Walsh, *supra* note 137. ("Even the EPA has admitted that its 2009 estimate of methane leakages is likely outdated and thus inaccurate . . . . But there's no guarantee that the actual methane-leakage rate is lower than the EPA estimate; it could be higher.").

[144] Alvarez, *supra* note 141, at 6435.

[145] Walsh, *supra* note 137.

[146] *See* ROBERT W. HOWARTH, PRELIMINARY ASSESSMENT OF THE GREENHOUSE GAS EMISSIONS FROM NATURAL GAS OBTAINED BY HYDRAULIC FRACTURING REVIEW (Apr. 10, 2010), *available at* http://www.technologyreview.com/sites/default/files/legacy/ghg.emissions.from.marcellus.shale.april12010_draft.pdf. ("A complete consideration of all emissions from using natural gas seems likely to make natural gas far less attractive than oil and not significantly better than coal in terms of the consequences for global warming.").

told, but it might not be worth the cost or the hassle."[147] The MIT Study suggests that making gasoline and diesel vehicles more fuel efficient might work better and faster to reduce greenhouse emissions.[148] In fact, beyond the theoretical outcome, the increased use of shale gas led to U.S. carbon emission reductions of 12% between 2007 and 2012, which was a larger reduction than Europe, and unlike the United States, Europe has a climate policy in place designed to reduce such emissions.[149]

Even if natural gas and coal are neutral as to their respective climate impact, though, natural gas offers several advantages to coal that are worth consideration. Burning natural gas to produce electricity creates nitrogen oxides and carbon dioxide, but less of both using coal or oil of the same use.[150] Burning natural gas leads to "negligible" amounts of sulfur dioxide and mercury compound emissions.[151]

In addition, there is some reason to believe that increased use of natural gas could create the opportunity for increased amounts of renewable energy. Prior studies by the Energy Information Administration (EIA) determined that a 15% national Renewable Portfolio Standard (RPS) (and renewable energy mandate) would result in an increase in retail electricity prices of roughly 1% over the 2005 to 2030 test period.[152] The EIA also analyzed a proposed 25% national RPS that determined the average retail electricity price would be 6.2% higher in 2030.[153]

However, the prices EIA used to calculate those numbers assumed a modest price reduction for natural gas (and coal) due to decreased demand

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147 Kevin Bullis, *Natural Gas May Be Worse for the Planet than Coal*, MIT TECH. REV. (Apr. 16, 2010), http://www.technologyreview.com/view/418490/natural-gas-may-be-worse-for-the-planet-than-coal/.

148 *Id.*

149 *European Climate Policy: Worse than Useless*, ECONOMIST, Jan. 25, 2014, at 10–11, *available at* http://www.economist.com/news/leaders/21595002-current-policies-are-mess-heres-how-fix-them-worse-useless.

150 *Clean Energy: Air Emissions*, U.S. ENVTL. PROTECTION AGENCY, http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html (last updated Sept. 25, 2013).

151 *Id.*

152 ENERGY INFO. ADMIN., OFFICE OF INTEGRATED ANALYSIS & FORECASTING, U.S. DEP'T OF ENERGY, IMPACTS OF A 15-PERCENT RENEWABLE PORTFOLIO STANDARD, at iv (2007), *available at* http://www.eia.gov/oiaf/servicerpt/prps/pdf/sroiaf(2007)03.pdf.

153 ENERGY INFO. ADMIN., OFFICE OF INTEGRATED ANALYSIS & FORECASTING, U.S. DEP'T OF ENERGY, ENERGY AND ECONOMIC IMPACTS OF IMPLEMENTING BOTH A 25-PERCENT RENEWABLE PORTFOLIO STANDARD AND A 25-PERCENT RENEWABLE FUEL STANDARD BY 2025, at xi (2007), *available at* http://www.eia.doe.gov/oiaf/servicerpt/eeim/pdf/sroiaf(2007)05.pdf.

because of increased renewable energy sources for electricity generation.[154] Another study determined that a 15% federal RPS would "drive down" the demand for natural gas and generally lower the price of power.[155] All of these studies were done when natural gas prices were as much as three times higher than they are today.[156] Thus, the current lower natural gas prices would make mandating renewable energy usage even less costly today than it would have been in 2007. [157]

In states that already have renewable energy mandates, natural gas-fired electricity generation is expected to help facilitate integrating new renewable electricity generation needed to meet those state mandates.[158] New natural gas-fired generation serves well as a firming resource[159] for intermittent power resources, such as wind and solar energy.[160] Coal-fired units, on the

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[154] ENERGY INFO. ADMIN., *supra* note 152, at iv; ENERGY INFO. ADMIN., *supra* note 153, at xi; *see also* Lincoln L. Davies, *Power Forward: The Argument for A National RPS*, 42 CONN. L. REV. 1339, 1374 (2010) ("The basis of RPS proponents' claims is that shifting to renewables can save money in a number of ways—namely, by lowering natural gas prices through reduced demand . . . .").

[155] Press Release, Woods MacKenzie, Federal Renewable Portfolio Standard Will Reduce Power and Natural Gas Costs, But Not Have a Significant Impact on GHG Emission Levels (Mar. 2007), *available at* http://www.woodmacresearch.com/cgi-bin/wmprod/portal/corp/corpPressDetail.jsp?oid=826210; *see also* Joshua P. Fershee, *Changing Resources, Changing Market: The Impact of a National Renewable Portfolio Standard on the U.S. Energy Industry*, 29 ENERGY L.J. 49, 58–61 (2008) (discussing the potential impacts of all three studies).

[156] *Natural Gas Prices*, ENERGY INFO. ADMIN. (Feb. 28, 2014), http://www.eia.gov/dnav/ng/hist_xls/N9190US3a.xls. Wellhead natural gas prices were, per thousand cubic feet, as follows: 2007: $6.25; 2008: $7.97; 2009: $3.67; 2010: $4.48; 2011: $3.95; 2012: $2.66. *Id.*

[157] It is also true, of course, that lower natural gas prices without a renewable energy mandate would likely make the cost of electricity even cheaper than it was in 2007. *Cf. id.*

[158] Some renewable-source electric generating plants are already using natural gas to back up intermittent sources like solar power. *See, e.g.*, Angela Neville, *Top Plant: Martin Next Generation Solar Energy Center, Indiantown, Martin County, Florida*, POWER (Dec. 1, 2011), http://www.powermag.com/top-plantmartin-next-generation-solar-energy-center-indiantown-martin-county-florida/ ("The 75-MW Martin Next Generation Solar Energy Center is the first hybrid solar facility in the world to combine a solar thermal array with a combined cycle natural gas power plant.").

[159] *See* Herman K. Trabish, *Getting Natural Gas, Solar, and Wind to Play Well Together*, GREENTECHMEDIA (June 21, 2013), http://www.greentechmedia.com/articles/read/Getting-Natural-Gas-Solar-and-Wind-to-Play-Well-Together (reporting that wind and solar work well with natural gas present because wind and solar are intermittent energy sources with natural gas an ideal firming resource).

[160] Felix Mormann, *Requirements for a Renewables Revolution*, 38 ECOLOGY. L.Q. 903, 923 (2011) ("[T]he intermittency of wind and solar energy is likely to require substantial grid reinforcements to handle the load peaks when these plants are operating at full capacity.").

other hand, while effective for base-load power, generally do not ramp up and down efficiently or cost effectively.

A study from the National Renewable Energy Laboratory (NREL) determined that increased levels of variable and uncertain energy supply from solar and wind are likely to require "greater operational flexibility in fossil energy power plants, including more frequent and greater cycling and ramping, . . . to accommodate the additional variability in renewable energy supply."[161] The NREL report states that recent studies have shown that operation and maintenance costs, emissions, and heat rates that would have costs created by the increased need renewable resources have for operational flexibility.[162] The report continues:

> These impacts are expected to influence the future role of coal and natural gas power plants, particularly when high levels of renewable electricity sources are deployed, but remain uncertain and may be mitigated by new technical solutions for new generating units and retrofitting existing units (Tilley and McCalla 2004) to enable greater operational flexibility with a lower cost penalty. However, *some new power plants, particularly natural gas combustion turbine and combined cycle plants, are designed for flexible operation without these penalties*.[163]

Finally, even in looking at what the court did discuss, the opinion misses the mark. For example, the court discusses the sordid history of coal exploration and exploitation in the state and sees fit to suggest that hydraulic fracturing under Act 13 could have the same effect. This, too, warrants a closer look and a comparison between the process for hydraulic fracturing and coal extraction, even under today's standards. The plurality seems to imply that the Environmental Rights Amendment has fixed the problem for coal, and that the looming threat is now hydraulic fracturing.[164]

Yet coal extraction remains a messy process that requires heavy equipment and major disruptions of the earth.[165] Longwall mining and mountaintop removal strip mining require major disruptions to the earth to

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[161] NAT'L RENEWABLE ENERGY LAB., 1 RENEWABLES ELECTRICITY FUTURES STUDY 1-15, *available at* http://www.nrel.gov/docs/fy12osti/52409-1.pdf (last visited Mar. 14, 2014).

[162] *Id.*

[163] *Id.* (emphasis added).

[164] *See* Robinson Twp. v. Commonwealth, 83 A.3d 901, 961 (Pa. 2013) (discussing the negative effects of coal and the steps taken to reverse course).

[165] *See* J. Thomas Lane, *Fire in the Hole to Longwall Shears: Old Law Applied to New Technology and Other Longwall Mining Issues*, 96 W. VA. L. REV. 577, 583 (1994) (explaining that mechanized equipment for longwall mining surged starting in the 1980s).

remove the coal.[166] As such, the court should have at least addressed the reality that, in the near term, it is not a question of whether to pursue natural gas or not to pursue natural gas. The question is really whether we will choose to pursue natural gas or coal. With that as the case, *Robinson Township* is the plurality saying, in essence, "We choose the devil we know over the devil we don't."

C. A Closer Look at "Minimal Statewide Protections"

The plurality also cited a lack of statewide protections that would result from hydraulic fracturing.[167] The opinion argues that Act 13 was seeking to take the state back to the pre-section 27 world and perhaps all the way back to the state of affairs under *Pennsylvania Coal Co. v. Sanderson*.[168] At that time, the Pennsylvania courts supported industry without regard to the damage done to residents around them. The court rejected landowner claims that a coal company had heavily polluted a stream, negatively impacting the water rights of those downstream.[169] "The water pollution and many other adverse impacts of coal mining were and are fully predictable, but fact-based predictability was of no consequence to the *Sanderson* court."[170] The Sanderson court explained,

> The plaintiff's grievance is for a mere personal inconvenience; and we are of opinion that mere private personal inconveniences, arising in this way and under such circumstances, must yield to the necessities of a great public industry, which, although in the hands of a private corporation, subserves a great public interest. To encourage the development of the great natural resources of a country trifling inconveniences to particular persons must sometimes give way to the necessities of a great community.[171]

Cases like *Sanderson* thus "allowed the broad externalization of the costs of pollution and other negative coal mining externalities onto landowners, communities, and the public as a whole."[172] In light of such a history, it is reasonable that the court would be reluctant to sanction a return to that past.

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166 *See* Patrick C. McGinley, *Collateral Damage: Turning A Blind Eye to Environmental and Social Injustice in the Coalfields*, 19 J. ENVTL. & SUSTAINABILITY L. 305, 372–73 (2013).

167 *Robinson Twp.*, 83 A.3d at 965.

168 6 A. 453 (Pa. 1886).

169 *See id.* at 459.

170 Patrick C. McGinley, *Bundled Rights and Reasonable Expectations: Applying the Lucas Categorical Taking Rule to Severed Mineral Property Interests*, 11 VT. J. ENVTL. L. 525, 565 (2010).

171 *Sanderson*, 6 A. at 459.

172 McGinley, *supra* note 170, at 566.

Given the level of current oil and gas regulation, though, it is hard to say that with or without Act 13, the landowners were in such a precarious position.

Pennsylvania has come a long way since *Sanderson* and its ilk. No longer does state law grant such great latitude to industry, despite claims to the contrary. Although it is true that oil and gas operations are exempt from several federal environmental laws, there are many laws and regulations required for the oil and gas industry. It is certainly reasonable to question whether the regime is ideal or even sufficient, but there is, without question, a regime. There may well be a need for new regulations to improve oversight of hydraulic fracturing and other industries that pose environmental risks, but new regulations do not necessary lead to better oversight.

Regulations mean nothing if they are not enforced.[173] There is a strong argument that the problems related to hydraulic fracturing (and, for that matter, coal extraction, chemical storage, and hazardous waste operations) are more linked to a lack of enforcement and not a lack of regulation. In oil and gas, there are several environmental protections already in place. Whether they are being enforced to ensure safety, though, is another question.

As the *Robinson Township* dissent notes, hydraulic fracturing in Pennsylvania requires several steps.[174] Justice Saylor states,

> the lead opinion gives scant attention to its extensive scheme for well permitting, including the imposition of well location restrictions; the enactment's requirements for protection of fresh groundwater and water supplies; Act 13's dictate to restore land areas disturbed in siting, drilling, completing, and producing a well; the investiture of responsibility in the Department of Environmental Protection to enforce Act 13's requirements, inter alia, through permit revocation, assessment of civil fines and penalties, and injunctive relief; and the preservation of existing requirements under environmental laws, including the Clean Streams Law, 35 P.S. §§691.1-691.1001, as well as statutory and common-law remedies to abate nuisances and pollution. *See* 58 Pa.C.S., Ch. 32.[175]

In addition, under the Oil and Gas Act, operators must secure a drilling permit and file an application addendum outlining a water management plan for

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[173] *See, e.g.*, Emergency Petition for Mandamus, West Virginia *ex rel*. Covent House v. Huffman, No. 14-0112 (W. Va. Feb. 7, 2014), *available at* http://www.courtswv.gov/supreme-court/clerk/pdf/20140207141333090.pdf (suing the West Virginia Bureau of Public Health and Department of Environmental Protection for failing to carry out their public safety duties as related to a major chemical leak that left 300,000 people without safe water).

[174] Robinson Twp. v. Commonwealth, 83 A.3d 901, 1011 (Pa. 2013) (Saylor, J., dissenting).

[175] *Id.*

the site.[176] Section 3211(a) of 58 Pa.C.S. §§ 3201-3274 (2012 Oil and Gas Act) also mandates that operators obtain a well permit before drilling or altering a well. Additionally, Section 3259 of the 2012 Oil and Gas Act[177] makes it illegal to drill, alter, operate, or use an oil or gas well without a permit or proper registration, and such activities must comply with the rules and regulations adopted in the 2012 Oil and Gas Act, the orders of the DEP, and any permit terms or conditions.[178]

Pennsylvania law regulates accelerated erosion in 25 Pa. Code Chapter 102, which applies to oil and gas operations. The regulations were created under the Pennsylvania Clean Streams Law,[179] and the regulations prohibit discharging any pollutant into Pennsylvania waters. Under the Chapter 102 regulations, all earth disturbance activities required the actor responsible to use Best Management Practices (BMPs) to minimize the amount of sediment that leaves the disturbed area. Pennsylvania's oil and gas regulations[180] incorporate these regulations by reference. DEP administers and enforces the laws and regulations.[181]

Further, oil and gas operators must have a Preparedness, Prevention and Contingency (PPC) Plan that address the types of waste the process will create, disposal plans for the waste, and a spill prevention plan, including those related to construction and on-site impoundments.[182] Water withdrawal permits for surface and groundwater are required from DEP, as well as separate water withdrawal permit permits from projects sited under the jurisdiction of either the Delaware River Basin Commission (DRBC) or Susquehanna River Basin Commission (SRBC).[183]

An operator must obtain a DEP permit, under section 105, for construction, excavation, or operation that take place in a wetland, stream, or

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176 25 PA. CODE §§ 78.11–78.33 (2014).

177 58 PA. CONS. STAT. § 3259 (2014).

178 *See* PA. DEP'T ENVTL. PROT., INSTRUCTIONS FOR COMPLETING AN APPLICATION FOR A PERMIT TO DRILL OR ALTER AND OIL OR GAS WELL, FORM 8000-PM-OOGM0001, *available at* http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-87960/8000-PM-OOGM0001%20Instructions.pdf (providing a detailed review of the requirements for drilling or altering a Pennsylvania oil and gas well).

179 35 PA. CONS. STAT. §§ 691.1–691.1001 (2012).

180 25 PA. CODE § 78.53 (2014).

181 *See generally Erosion and Sediment Control Requirements for Oil and Gas Activities*, PA. DEPARTMENT ENVTL. PROTECTION, http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-96602/8000-FS-DEP4216.pdf (last visited Mar. 13, 2014).

182 PA. COUNCIL OF TROUT, MARCELLUS SHALE WHITE PAPER: GAS DRILLING IN THE MARCELLUS SHALE AND PENNSYLVANIA'S COLDWATER RESOURCES 2 (May 2010), *available at* http://www.patrout.org/docs/patu-policies/marcellus-white-paper.pdf?sfvrsn=0.

183 *Id.*

body of water. The Oil and Gas Act requires a similar permit.[184] Operators also must obtain a Water Quality Management Permit for any centralized impoundment that will hold non-fresh water fluids (e.g., fracking fluids).[185] Chapter 78 regulates siting, construction, use, and abandonment of temporary pits.[186]

The preceding is not a comprehensive list of the compliance permits or other steps necessary to conduct oil and gas operations in Pennsylvania. This is not a claim that there is already too much regulation or that there is even necessarily enough. It does, though, make clear that the claim that oil and gas operations are "unregulated" is not accurate. Pennsylvania regulators, as well as those conducting oil and gas operations in the state, can and should do a better job of protecting the Commonwealth's environment.[187] The most critical part of doing that is complying with, and enforcing, existing regulations and following industry best practices.

IV. THE DANGER OF EVEN WELL-MEANING ASSUMPTIONS: FINDING A WAY FORWARD

A. The Worst Case Scenario: Unsupported Facts Make Bad Law

Absent some citation or source for the factual conclusions made by the plurality and the concurrence in *Robinson Township*, the conclusions raise serious questions and support the Commonwealth's argument that remand is warranted. Different courts can analyze the same set of facts and research differently, leading to different outcomes. That is not inherently problematic. Drawing conclusions based on the court's "sense" or perception of the facts, rather than a review of relevant research, though, is an entirely different issue that is bound to produce bad outcomes.

As an example, consider the United States Supreme Court decision, *Massachusetts v. EPA*.[188] In that case, the majority determined that the U.S. EPA had to provide a "reasoned explanation for its refusal to decide whether greenhouse gases cause or contribute to climate change."[189] This decision followed the court's determination that climate change risks from greenhouse gas emissions warranted the EPA's attention. Importantly, the court did not just

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184 *Id.*

185 *Id.*

186 *Id.*

187 Wiseman, *supra* note 26, at 284 ("[S]tates should hire enforcement staff if drilling permit application rates increase and should equip staff with the physical equipment necessary to do effective testing and monitoring.").

188 549 U.S. 497, 521 (2007).

189 *Id.* at 534.

simply assert that greenhouse gasses were a risk; the court cited studies to support the determination. The court explained,

> The harms associated with climate change are serious and well recognized. Indeed, the NRC Report itself—which EPA regards as an "objective and independent assessment of the relevant science," 68 Fed.Reg. 52930—identifies a number of environmental changes that have already inflicted significant harms, including "the global retreat of mountain glaciers, reduction in snow-cover extent, the earlier spring melting of ice on rivers and lakes, [and] the accelerated rate of rise of sea levels during the 20th century relative to the past few thousand years . . . ."[190]

The majority showed some restraint, as well, deciding not to answer "the question whether on remand EPA must make an endangerment finding."[191]

Chief Justice Roberts, in his dissent, had a different take on the facts presented, and would have decided differently:

> As an initial matter, if it is possible that the model underrepresents the elevation of coastal land to an extent equal to or in excess of the projected sea level rise, it is difficult to put much stock in the predicted loss of land. But even placing that problem to the side, accepting a century-long time horizon and a series of compounded estimates renders requirements of imminence and immediacy utterly toothless.[192]

The key here, though, is that the court had information and facts to consider, not what the court did with those facts.

This should be the approach for both the anti-fracking jurists and those who support the HF process. Blindly accepting commonly held views as scientific fact, without any supporting science and other evidence, will lead courts astray, as it has in the past. At its worst, using perception in place of fact has led to some of the most egregious abuses of individual rights in the gender and race context. To be clear, the level of harm caused in the HF cases is not in the same sphere as the gender and miscegenation cases. Still, the point is that substituting perception for factual inquiry and analysis leads to unsubstantiated outcomes.

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[190] *Id.* at 521 (quoting BRUCE ALBERTS ET AL., NAT'L RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME KEY QUESTIONS 16 (2001), *available at* http://www.nap.edu/catalog.php?record_id=10139).

[191] *Id.* at 534.

[192] *Id.* at 542 (Roberts, C.J., dissenting).

Take, for example, the case of Mrs. Myra Bradwell, a woman in 1872, who had the temerity to seek admission to practice before the bar of Illinois.[193] The majority opinion determined that the Fourteenth Amendment to the United States Constitution did not grant her a right to equal access to bar admission. [194]

> On the contrary, the civil law, as well as nature herself, has always recognized a wide difference in the respective spheres and destinies of man and woman. Man is, or should be, woman's protector and defender. The natural and proper timidity and delicacy which belongs to the female sex evidently unfits it for many of the occupations of civil life."[195]

Similarly, the trial court in *Loving v. Virginia* justified upholding Virginia's laws forbidding interracial marriage based on the following "facts":

> Almighty God created the races white, black, yellow, malay and red, and he placed them on separate continents. And but for the interference with his arrangement there would be no cause for such marriages. The fact that he separated the races shows that he did not intend for the races to mix.[196]

The United States Supreme Court saw fit to overrule the Virginia state courts, finding that the laws violated both the Equal Protection Clause and the Due Process Clause. Notably, though, the Court did not need to rely on a factual basis to refute the state's assertions, and instead relied upon the Constitution itself determining the outcome.

At times, courts have even used assumed facts to highlight a lack of fact. In a 1957 case, the U.S. Court of Appeals for the Ninth Circuit upheld a U.S. Post Office decision not to distribute several hundred copies of *One Magazine*, which was known as the "The Homosexual Magazine."[197] The Postmaster notified the publisher "that all copies . . . deposited for mailing were being withheld from dispatch for the reason that he considered the October 1954 issue of 'One' obscene, lewd, lascivious and filthy, and as such

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193 *See* Bradwell v. Illinois, 83 U.S. 130, 130 (1872).

194 *Id.* at 139 ("We agree . . . that there are privileges and immunities belonging to citizens of the United States . . . . and that it is these and these alone which a State is forbidden to abridge. But the right to admission to practice in the courts of a State is not one of them.").

195 *Id.* at 141 (Bradley, J., concurring).

196 Loving v. Virginia, 388 U.S. 1, 3 (1967) (quoting from the trial court opinion).

197 One, Inc. v. Olesen, 241 F.2d 772, 773 (9th Cir. 1957), *rev'd*, 355 U.S. 371 (1958).

constituted non-mailable matter."[198] The magazine, though, was neither explicit nor pornographic.[199] The court explained,

> The story 'Sappho Remembered' appearing on Pages 12 through 15, is obscene because lustfully stimulating to the homosexual reader. . . . The climax is reached when the young girl gives up her chance for a normal married life to live with the lesbian. This article is nothing more than cheap pornography calculated to promote lesbianism. It falls far short of dealing with homosexuality from the scientific, historical and critical point of view.[200]

The court asserts that *Sappho Remembered* is "lustfully stimulating to the homosexual reader," though it is not clear how the court knows this fact. Furthermore, the court concludes the story is pornography without any explanation why (presumably, though, it is the topic), then asserts that the story was designed to "promote lesbianism." Admittedly, when the factual standard for pornography is something along the lines of "I know it when I see it," it is easier for the court to make such assertions.[201] Nonetheless, that should not be the standard for environmental harm.

Racial, gender, and sexual orientation inequalities are still major concerns, in the United States[202] and around the world,[203] and this line of

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198 *Id.*

199 Jonathan Rauch, *The Unknown Supreme Court Decision that Changed Everything for Gays*, VOLOKH CONSPIRACY (Feb. 5, 2014, 10:11 AM), http://www.washingtonpost.com/news/volokh-conspiracy/wp/2014/02/05/the-unknown-supreme-court-decision-that-changed-everything-for-gays/ ("[One] did not publish explicitly sexual content or anything that approached the boundaries of pornography.").

200 *One, Inc.*, 241 F.2d at 774, 777.

201 Jacobellis v. Ohio, 378 U.S. 184, 197 (1964) (Stewart, J., concurring).

202 Several states and other governmental subdivisions have adopted what are known as "no-promo-homo" or "don't-say-gay" policies. Ashley E. McGovern, *When Schools Refuse to "Say Gay": The Constitutionality of Anti-LGBTQ "No-Promo-Homo" Public School Policies in the United States*, 22 CORNELL J.L. & PUB. POL'Y 465, 467 (2012) ("Under the harshest of these policies, teachers may only discuss LGBTQ people in class if they are portrayed as immoral, unhappy, or disease-prone."); *see also* William N. Eskridge, Jr., *No Promo Homo: The Sedimentation of Antigay Discourse and the Channeling Effect of Judicial Review*, 75 N.Y.U. L. REV. 1327, 1328 (2000) (arguing that anti-gay discourse has shifted from portraying gays as "bad people" who commit "bad acts" to claims that "progay changes in law or norms would encourage homosexuality or homosexual conduct").

203 For example, Uganda recently passed "officially the Anti-Homosexuality Bill 2009—[that] provides for a 14-year jail term for a first conviction and 'imprisonment for life for the offense of aggravated homosexuality.'" Alan Cowell, *Ugandan Lawmakers Pass Measure Imposing Harsh Penalties on Gays*, N.Y. TIMES (Dec. 20, 2013), http://www.nytimes.com/2013/12/21/world/africa/ugandan-parliament-approves-antigay-

argument is by no means intended to minimize the harms from any of those forms of insidious discrimination. The point is that climate disruption and our global energy future are also about equity and fairness, and courts (or legislatures) deciding "facts" rather than seeking input from experts is more likely to further, not lessen, inequalities. Sometimes a court or legislature will guess at the facts and get the outcome right, but the odds are not good.

A careful analysis of facts does not always lead to proper (or good) outcomes, but when facts—supported by studies and other assessments—are used as the basis for an option, the odds of a good and proper outcome improve greatly. When courts make determinations, especially in new and emerging areas of the law, they should at least gather information to support those determinations. The lack of fact gathering is of critical importance in this case, because the majority of the court relies on unsupported facts in leading to the ultimate outcome. That is, although there is no majority opinion, the plurality and the concurrence cite to "facts" that could be deemed by lower courts to be the law of the state as applied to hydraulic fracturing, despite the lack of support.

Even when the outcome of the case seems to be good—for example, protecting the environment—these types of analyses are dangerous.[204] First, what it means to be "good" can be subjective. One can be sure that those seeking to uphold the prosecution of the Lovings based their views in "protecting the traditional family," yet the outcome was to harm families, notwithstanding what was, at least for far too many people, popular opinion.

In cases implicating evolving technology, such as fracking cases, the risk of harm from judges not understanding the basic issues involved are especially prevalent. This has been widely reported as a concern in the context of technology cases related to the evolution in personal communication, from landline phones to cellphones to smartphones. As one technology attorney explained, "you could walk into a courtroom with a rock-solid case, but if the judge doesn't understand the technological details of your argument you might as well be speaking Aramaic."[205] The same is true with hydraulic fracturing.

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law.html?_r=0. In June 2013, Russia passed a law, stating that private individuals promoting "homosexual behavior among minors" can be fined as much as 5,000 roubles (£100; $155), and officials can be fined up to ten times more. *Russian Duma passes law banning 'gay propaganda,'* BBC NEWS EUROPE (June 13, 2013), http://www.bbc.co.uk/news/world-europe-22862210. Organizations, such as businesses and schools, can be fined as much as 500,000 roubles. *Id.*

[204] Jonathan Rauch's explanation of the problems with the Ninth Circuit's rationale in *One, Inc.*, in the context of free speech, could be applied similarly to unsupported statements of purported facts in any context: "[T]urnabout is not fair play. The problem is not that the bad guys were in charge . . . in 1954, whereas the good guys are in charge now." Rauch, *supra* note 199.

[205] Nicholas Deleon, *We're Doomed: The U.S. Supreme Court Doesn't Know the Difference Between Text Messages and Pagers*, TECHCRUNCH (Apr. 21, 2010), http://techcrunch.com/2010/04/21/were-doomed-the-u-s-supreme-court-doesnt-know-the-

B. Risking the Forest By Focusing on One Tree

An opinion from the Pennsylvania Supreme Court is a substantial tool in guiding law and policy discussions around the country. The conclusions drawn in the opinion are likely to be cited and repeated regularly for those seeking to oppose fracking and beyond. One of the more dangerous possible takeaways from the case is the sense that fracking is the sole, or at least main, environmental concern facing our nation today. At best, that is a limited view of our environmental reality and our ability to respond to the risks presented.

1. Policy Windows, Bad Assumptions, and Missed Opportunities

In the wake of high-profile events, there often follow what are known as "policy windows" that create opportunities for new legislation or regulation. G. Richard Shell describes the concept as follows:

> Policy windows "open" in the wake of a high visibility event such as an expose, a scandal, a public-health crisis, or a disaster. They "close" when the legislature acts to address the problem or when some other news event pushes the issue off the front pages and diverts public attention elsewhere.[206]

Hydraulic fracturing was already a high-profile issue when local communities started passing ordinances to limit the process in their communities. Increased press coverage moved these ordinances to the forefront, with some ordinances not just pitting communities versus industry, but also neighbor versus neighbor. With this policy window open, the General Assembly responded quickly and decisively to pass Act 13. Although the legislative response was not necessarily the best option, or even a good option, it did represent an example of how policy windows can lead to action.

Although policy windows do not always lead to good outcomes, they create the opportunity for quick action where action is needed. Better outcomes are more likely to occur where it is: (1) clear what policy window has been opened and (2) that the responsive policy proposal is targeted to address that specific issue raised. Again, although Act 13 may not be the best policy choice, it is legislation that targets exactly what it intended to do: streamline the oil and gas process and limit local impediments to exploration and production. Unfortunately, when the goals of new policies in response to open policy windows are not clear or focused, the resulting policy responses can be poor.

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difference-between-text-messages-and-pagers/ (reporting the comments of an Electronic Frontier Foundation attorney).

[206] G. RICHARD SHELL, MAKE THE RULES OR YOUR RIVALS WILL 44–45 (2011).

2. The Danger of Fracking Distractions

In early January 2014, southern West Virginia experienced a disastrous chemical spill into the Elk River that left 300,000 people without safe water.[207] The spill was large enough to open a small policy window, although even in the immediate aftermath, commentators noted that the disaster failed to reach the major weekend news shows,[208] where other events, such as New Jersey Governor Chris Christie's traffic scandal, pushed the story to other outlets.

The chemical spill highlighted serious failures by the corporation storing the chemicals that leaked, as well as failures by the environmental regulators charged with oversight of chemical storage in the states. Chemical storage is an issue that needs to be addressed while the policy window is open. Unfortunately, much of the spill-related dialogue in the immediate aftermath seemed to be forcing the policy window to close. Why? Because numerous outlets, from *The Christian Science Monitor*[209] to the Daily Show,[210] linked the chemical spill to hydraulic fracturing.

There are, of course, chemicals used in the hydraulic fracturing process; however, the West Virginia chemical spill had nothing to do with fracking. The spilled chemical was stored at a site where the chemical was not being used for its purpose, which is to wash coal in preparation for sale. As such, the spill is not directly a coal or a natural gas issue, though in this instance it is closer to coal than natural gas. The event is primarily a chemical spill resulting from a failure of the chemical company involved and the regulators charged with oversight. (It is worth noting that solar panels need toxic chemicals,[211] too, so concern about chemical spills is not limited simply to fossil fuels.).

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[207] Portions of this section are based, in part, on a prior blog post. *See* Joshua P. Fershee, *Don't Let WV Chemical Spill Get You Fracking Distracted*, BUS. L. PROF BLOG (Jan. 15, 2014), http://lawprofessors.typepad.com/business_law/2014/01/dont-let-wv-chemical-spill-get-you-fracking-distracted-1.html.

[208] *See, e.g.*, Jason Linkins, *Sunday Shows to West Virginia: Drop Dead!*, HUFFINGTON POST (Jan. 12, 2014, 4:07 PM), http://www.huffingtonpost.com/2014/01/12/sunday-shows-ignore-west-virginia-disaster_n_4585922.html.

[209] Patrik Jonsson, *West Virginia Chemical Spill: Does it Threaten Clean Water Gains*, CHRISTIAN SCI. MONITOR (Jan. 11, 2014), http://www.csmonitor.com/Environment/2014/0111/West-Virginia-chemical-spill-Does-it-threaten-clean-water-gains.

[210] *The Daily Show with John Stewart: Coal Miner's Water* (Comedy Central television broadcast Jan. 13, 2014), *available at* http://www.thedailyshow.com/watch/mon-january-13-2014/coal-miner-s-water.

[211] Shaker Muasher, *The Possibility of a Solar-Powered Nation: Nitty-gritty*, STANFORD ALUMNI, http://alumni.stanford.edu/get/page/magazine/article/?article_id=30242 (last visited Mar. 14, 2014).

The impacts of energy-related regulation and the related economic, environmental, and social impacts are vital to properly planning for and responding to issues raised by large-scale hydraulic fracturing. As such, this kind of misdirection is cause for concern. The main concern is that the focus will shift away from the clear and present issue presented by the spill: the lack of inspection and oversight of chemical storage facilities. That is the immediate and pressing issue the spill raises, and adding separate (and largely distinct) risks and processes related to potential harms from hydraulic fracturing to the discussion is likely to distract policy makers from the chemical storage issue.

To be clear, there are risks from hydraulic fracturing, but the risks attendant to the HF process are unrelated to the damage that left 300,000 West Virginians without water. Conflating the two issues is dangerous and misguided, and runs the risk of protracted discussion leading to no progress on either the chemical storage or hydraulic fracturing fronts. As for hydraulic fracturing risks,

> One of the paramount concerns for both the oil and gas industry, as well as regulators and communities, should be that a company gets careless with their drilling methods or waste management processes, and that the carelessness leads to a major environmental disaster. The harm to the environment itself would be a concern, of course, but . . . this harm is one that should be universally recognized.[212]

Therefore, it is essential that policymakers pursue increased use of baseline standards for all phases of hydraulic fracturing. Still, the best ways to address the risks from hydraulic fracturing are different in most cases from how we must approach increasing safety at chemical storage sites. It will serve all of us well to recognize the issues raised by specific disasters and differentiating fracking problems from other kinds of environmental risk. There is little doubt that increased attention to a whole host of environmental issues is warranted, but not everything can happen at the same time or with the same solution. Merging competing issues into the same policy analysis, such as chemical storage and hydraulic fracturing, is bad economic, environmental, and social policy.

There has been enough harm to all three areas already, and truly addressing hydraulic fracturing concerns will require a focus on what the real concerns are. As such, legislators, regulators, and courts should be assessing the known risks, based on the facts available.

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[212] Fershee, *supra* note 32.

C. A Narrower Approach: Reconciling Robinson Township *with Existing Preemption Laws*

Despite the potential risks posed by the *Robinson Township* case, future courts will have the opportunity to mitigate the potential confusion the decisions could create, while maximizing some potential benefits of the outcome. This is because, notwithstanding the lofty rhetoric[213] used to justify the *Robinson Township* opinion, it is possible to read the case much more narrowly, giving credence to and respecting the essence of section 27 without eliminating the possibility of statewide hydraulic fracturing legislation. It could be that, quite simply and despite the lofty language, the court is really saying that section 27 requires that local governments have meaningful input into the process. The court states: "In a further blanket accommodation of industry and development, Section 3215(d) limits the ability of local government to have any meaningful say respecting drilling permits and well locations in their jurisdictions."[214] As discussed in more detail below, Pennsylvania preemptive statute for hazardous waste disposal siting provides for a detailed local input process before preemption occurs.

The plurality further explained that "the impact on the quality, quantity, and well-being of our natural resources cannot reasonably be assessed on the basis of a statewide average."[215] Instead, protecting environmental values, in this context, "is a quintessential local issue that must be tailored to local conditions."[216] The court notes that there are "minimal statewide protections" under Act 13, and the statute takes away local government's ability to act. Again, then, perhaps it is simply that the Act 13 did not provide enough opportunity for local input, meaning that a more tailored approach with such protections might have been permissible.

This is likely the better reading of the plurality opinion, at least as it applies beyond Act 13.[217] This reading can also be more easily reconciled with the concurrence[218] and prior cases[219] regarding local zoning expectations.

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213 *See supra* Part III.

214 Robinson Twp. v. Commonwealth, 83 A.3d 901, 961, 973 (Pa. 2013).

215 *Id.* at 979.

216 *Id.*

217 *Id.*

218 *See id.* at 1001 (Baer, J., concurring) ("I respectfully view the primary argument of the challengers to Act 13 to be that the General Assembly has unconstitutionally, as a matter of substantive due process, usurped local municipalities' duty to impose and enforce community planning, and the concomitant reliance by property owners, citizens, and the like on that community planning." (footnote omitted)).

Furthermore, there is nothing in *Robinson Township* that indicates the court was seeking to overturn other preemptive statutes in the state. In fact, Pennsylvania has effectively preempted local ordinances in other areas without much fanfare. In the case of hazardous waste siting, the Pennsylvania Environmental Quality Board (EQB) has the power to issue certificate of public necessity (CPN)[220] and override local laws, including zoning ordinances.[221] There are no reported cases objecting to this provision of Pennsylvania law.

That is not to say that no one objects to hazardous waste sites. Officials in Pennsylvania's Burlington County are currently in the process of opposing a hazardous waste incinerator that has been proposed in Bristol Township, Pennsylvania, which is across the Delaware River.[222] However, it appears that the challenges come from other places than the state-level preemption.

Specifically, the Pennsylvania hazardous waste siting law provides: "Issuance of a CPN by the EQB shall suspend and supersede local laws, including zoning ordinances, which would preclude or prohibit the establishment of a hazardous waste treatment or disposal facility."[223] This is a strong and clear statement of preemption, but it comes with a host of processes and procedures to ensure local input.

The Pennsylvania DEP provides a guidance manual for permitting commercial hazardous waste disposal facilities that outlines the preemption process.[224] If a permit for such a facility is issued, but local law or zoning ordinance "would preclude or prohibit the siting or operation of the facility," the applicant can seek a CPN from the EQB.[225] If granted, the CPN preempts local ordinance.[226]

Before the EQB can issue a CPN, it must determine whether the proposed facility is necessary to implement the Pennsylvania Hazardous Waste

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219 *See* Village of Euclid v. Amber Realty Co., 272 U.S. 365, 395 (1926) (stating that zoning restrictions cannot stand if the "provisions are clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare").

220 25 PA. CODE § 269a.101 (2014).

221 *Id.* § 269a.103(b).

222 Nicole Mulvaney, *Plan for Bristol, Pa., Incinerator that Raised Pollution Concerns in Mercer, Burlington is on Hold*, TIMES TRENTON (Feb. 20, 2014), http://www.nj.com/mercer/index.ssf/2014/02/attorney_pulls_plan_for_bristol_incinerator_that_would_pollute_mercer_burlington_counties_officials.html

223 25 PA. CODE § 269a.103 (2014).

224 PA. DEP'T ENVTL. PROT., GUIDANCE MANUAL FOR PERMITTING OF COMMERCIAL HAZARDOUS WASTE TREATMENT OR DISPOSAL FACILITIES 6, *available at* http://www.portal.state.pa.us/portal/server.pt?open=18&objID=505575&mode=2 (last visited Apr. 4, 2014).

225 *Id.*

226 *Id.*

Facilities Plan (HWF Plan).[227] The guidance document also charges the applicant seeking the CPN with the HWF Plan generally and should "know whether the proposed facility is one that is identified as needed in the Plan."[228] In addition, there are strong public participation requirements. The Guidance Document explains,

> The EQB is also required by the Solid Waste Management Act to evaluate the degree to which opportunities for meaningful public participation, as provided by the applicant *throughout the entire permitting process*, when deciding whether to issue a CPN. As the need for a CPN may arise very late in the process, the applicant should consider developing a strong public participation program very early in planning an application, so as not to be foreclosed from obtaining one if it later proves necessary.[229]

Despite the apparent success of the hazardous waste legislation, a possible reading of *Robinson Township* could call this preemption into question, particularly the majority's reading of section 27. The U.S. EPA explains that

> waste may be considered *hazardous* if it is ignitable (i.e., burns readily), corrosive, or reactive (e.g., explosive). Waste may also be considered hazardous if it contains certain amounts of toxic chemicals. In addition to these characteristic wastes, EPA has also developed a list of over 500 specific hazardous wastes. Hazardous waste takes many physical forms and may be solid, semisolid, or even liquid.[230]

As such, a hazardous waste disposal facility is bringing such waste into a community, and the process of waste disposal inherently will lead to some impact on the environment in the locality in which the facility is sited. For example, it is highly likely that a court could determine that a hazardous waste disposal facility would "substantially diminish[] natural and esthetic values of the local environment."[231] Thus, if the plurality opinion's view of Act 13 were read expansively, one could certainly similarly read section 269a.103 to "sanction[] a direct and harmful degradation of the environmental quality of life in . . . communities and zoning districts" that have hazardous waste

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227 25 PA. CODE § 269a.152 (2014).

228 PA. DEP'T OF ENVTL. PROT., *supra* note 224, at 6.

229 *Id.*

230 *Resource Conservation and Recovery Act (RCRA)*, U.S. ENVTL. PROTECTION AGENCY, http://www.epa.gov/oecaagct/lrca.html#About (last updated Oct. 30, 2013).

231 Robinson Twp. v. Commonwealth, 83 A.3d 901, 961, 965 (Pa. 2013).

facilities.[232] In fact, the plurality opinion states Act 13's "outright ban on local regulation of oil and gas operations . . . propagates serious detrimental and disparate effects on the corpus of the trust" and "permit[s] development with . . . an immediate, disruptive effect upon how Pennsylvanians live their lives."[233]

Again, one could substitute "section 269a.103" for "Act 13." If so, it would seem a court reading *Robinson Township* broadly would be compelled to "hold that the degradation of the corpus of the trust and the disparate impact on some citizens sanctioned by" the CPN preemption process in section 269a.103 "are incompatible with [Section 27]."[234] Again, this is not the only possible outcome, and as described above, not the best possible reading of *Robinson Township*, but it is plainly a possible outcome based on the plurality opinion.

The better option, then, is to read *Robinson Township* to mean that complying with Section 27 requires the kind of careful planning and analysis, combined with public participation in affected areas, provided in section 269a.103 and through the DEP and EQB preemption procedures. By assuming that *Robinson Township* is not meant to overrule existing preemptive statures, future courts would have a model through which to test future preemptive statutes in compliance with section 27.

V. CONCLUSION

> *Progress means getting nearer to the place you want to be. And if you have taken a wrong turning, then to go forward does not get you any nearer. If you are on the wrong road, progress means doing an about-turn and walking back to the right road . . . ."*
> — C.S. Lewis, *Mere Christianity*
>
> *And a step backward, after making a wrong turn, is a step in the right direction.*
> — Kurt Vonnegut, *Player Piano*

Almost anything that impedes progress serves to entrench the status quo. Sometimes that is preferable to the proposed changes, but it is critical that those stopping the changes recognize that the status quo almost always has its flaws as well. The energy sector is no different. As Professor Hannah Wiseman has explained, "Americans need energy, and all energy production has consequences that we all must weigh, whether those consequences arise from

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232 *Id.*

233 *Id.* at 981.

234 *Id.* at 982.

wind turbines that interrupt an ocean view or a drilling rig that casts a shadow on a pastoral scene."[235]

Of course, the harms from all forms of energy production have harms beyond the aesthetic. As the plurality in *Robinson Township* recounted, the result of virtually unregulated coal-related activity in Pennsylvania "was devastating to the natural environment of the coal-rich regions of the Commonwealth."[236] There is often a "misconception that . . . renewable energy sources do not cause environmental degradation."[237] Wind power, for example, can lead to "an increase in bird mortality, degradation of ecosystems, and harm to endangered species and their habitats."[238] Similarly, solar power can fragment animal habitats, and geothermal energy can change migration patterns and the drilling process can release arsenic and mercury.[239] Conventional drilling for oil and gas, as well as horizontal drilling and hydraulic fracturing, impact the environment, as well.[240]

No energy form is perfect, and it is wise to proceed cautiously. Yet hydraulic fracturing is essential to modern natural gas extraction.[241] The process, combined with horizontal drilling, has helped increase natural gas production levels, and thus lower prices, to a point where gas can be a major bridge fuel to a more sustainable energy future.[242] The key, then, is effectively monitoring natural gas extraction in a way that protects natural resources and health and human safety.[243]

Whether Act 13 was the best or wisest path forward for Pennsylvania will remain subject to debate, but the likely consensus will be that it was not. Act 13 represents a heavy-handed, state-level response to local government actions to restrict or ban hydraulic fracturing that was not the ideal option to facilitate a proper balance between economic development and environmental protection. That said, Act 13 did exactly what it set out to do: provide a statewide framework to promote oil and gas development in the state. It is reasonable to debate whether that was the right goal, and it may be that

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235 Wiseman, *supra* note 26, at 292.

236 *Robinson Twp.*, 83 A.3d at 961.

237 Victoria Sutton & Nicole Tomich, *Harnessing Wind Is Not (by Nature) Environmentally Friendly*, 22 PACE ENVTL. L. REV. 91, 93 (2005).

238 *Id.* at 94.

239 *Renewable Energy: Types of Renewable Energy Projects Defenders is Working On*, DEFENDERS OF WILDLIFE, http://www.defenders.org/renewable-energy/types-renewable-energy-projects (last visited Mar. 14, 2014).

240 *See* JOHN S. LOWE ET AL., OIL AND GAS LAW 1020 (4th ed., West Group 2002).

241 Wiseman, *supra* note 26, at 290.

242 *See id.*

243 *Id.*

preserving restrictive local ordinances would be the better policy choice,[244] but the body designed to make that determination, the Pennsylvania General Assembly, did so.

Legislators and the industry promoting the bill, likely asked for too much, too fast. Act 13 did not build in enough local opportunity for input as other similar bills have done, and even if the process would have worked, it lacked support from many communities and the majority of the Pennsylvania Supreme Court. Still, such policy questions should usually be left in the hands of the General Assembly, which has mechanisms for such assessments and is held accountable by the people of the Commonwealth. Nonetheless, the court has spoken.

The remaining question now is how to move forward. The proper path should have involved fact gathering and analysis,[245] either at the legislature or in the courts.[246] The court could have done this by reconsidering its opinion and remanding the case back to the Commonwealth court, but the court did not.[247] The General Assembly, similarly, could revisit the issue, and try to recreate a better version of Act 13 that both streamlines oil and gas processes, while creating record and rationale that supports the measure. In either case, the public would benefit from a candid and detailed analysis of the risks and rewards of hydraulic fracturing and of the status quo.

The conversation should start here: in 2011, coal generated 44% of Pennsylvania's net electricity and 33% came from nuclear power.[248] Only 3.3%

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[244] *See* David B. Spence, *The Political Economy of Local Vetoes*, TEX. L. REV. (forthcoming 2014) (manuscript at 46), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2403978 ("If . . . we want regulation that takes preference intensity into account and seeks to maximize collective utility, then there may be a case for allowing local vetoes to stand, because locals experience the effects of fracking most intensely and profoundly, and so care more about the issue.").

[245] *See id.* ("Ideally, courts will resolve these conflicts [about local ordinances restricting hydraulic fracturing] in ways that encourage states and local governments to regulate in ways that weigh both the costs and the benefits of shale oil and gas production fairly and fully.").

[246] Dissenting Statement to Order Denying Application for Reargument or Reconsideration of the Opinions and Order entered by the Court in Robinson Twp. v. Commonwealth, on December 19, 2013, No. 63 MAP 2012 (Feb. 21, 2014) (Saylor, J. dissenting), *available at* http://www.pacourts.us/assets/opinions/Supreme/out/J-127A-D-2012dissent.pdf ("The judiciary simply does not possess the ability to divine the consequences of a legislative enactment absent a developed factual record.").

[247] Order Denying Application for Reargument or Reconsideration of the Opinions and Order entered by the Court in Robinson Twp. v. Commonwealth, on December 19, 2013, No. 63 MAP 2012 (Feb. 21, 2014), *available at* http://www.pacourts.us/assets/opinions/Supreme/out/J-127A-D-2012recon.pdf?cb=1.

[248] *Pennsylvania State Energy Profile*, ENERGY INFO. ADMIN., http://www.eia.gov/state/print.cfm?sid=PA (last visited Mar. 14, 2014).

of the state's net electricity comes from renewable sources,[249] and by 2021, Pennsylvania's Alternative Energy Portfolio Standards will require 18% of electricity sold to come from renewable or approved alternative sources, including at least 0.5% solar photovoltaic power.[250] Natural gas serves as the dominant heating source for homes at 38%, followed by electricity (29%), fuel oil (20%), and propane (9%).[251] In November 2013, nearly 23% of the state's electricity generation came from natural gas, which lagged behind coal (34%) and nuclear (38%).[252] As such, coal and nuclear power account for roughly 72% of the electricity generated in Pennsylvania.

The debate about hydraulic fracturing, then, is necessarily a debate about all fuel sources used in the state. No fuel source replaces coal more rapidly than natural gas, and both resources are extracted in Pennsylvania in significant amounts, meaning the state and its local communities absorb the harms and benefits of the processes. Discussing the better path forward, especially to the extent the debate could involve a choice between natural gas and coal, is a difficult and complex conversation, and it is one that needs to happen, either at the legislature, in the courts, or both. There is, in fact, a good argument that the Environmental Rights Amendment mandates such a discussion. To date, neither the General Assembly nor the courts wanted to have that conversation. It is time they did.

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249 *Id.*

250 73 PA. CONS. STAT. § 1648.3(b)–(c) (2008).

251 *Pennsylvania State Energy Profile*, *supra* note 248.

252 *See Pennsylvania: State Profile and Energy Estimates*, ENERGY INFO. ADMIN., http://www.eia.gov/state/?sid=PA#tabs-4 (last updated Mar. 27, 2014).