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Citation for final published version:

Varvastian, Samvel 2017. Climate change and the constitutional obligation to protect natural resources: the Pennsylvania atmospheric trust litigation. *Climate Law* 7 (2-3) , pp. 209-226. 10.1163/18786561-00702006 file

Publishers page: <https://doi.org/10.1163/18786561-00702006>

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Climate Change and the Constitutional Obligation to Protect Natural Resources: The Pennsylvania Atmospheric Trust Litigation

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Abstract

When it comes to climate litigation, environmental plaintiffs in the United States have demonstrated a remarkable ingenuity in terms of utilizing various legal avenues to compensate for the persisting regulatory gaps. In the last few years, the public trust doctrine and constitutional law have been present among these, in an attempt to put the risks associated with climate change on the map of human rights in relation to the environment and natural resources. However, despite a nationwide occurrence of such lawsuits, courts have been cautious in their approach to them. Similar lawsuits have emerged outside the United States, in Europe and Asia, demonstrating some viability. This analysis addresses the recent litigation in Pennsylvania, where petitioners asked the court to order the state government to take action on climate change and to declare such action a constitutional obligation under the state's Constitution.

Keywords

United States; public trust doctrine; constitutional law; human rights.

1. Introduction

Over the last decade, climate change cases have attracted increasing attention of both the public and scholarship. An example of this are the three climate cases that have reached the US Supreme Court² as well as cases *Kivalina v. ExxonMobil*, involving an Eskimo village suing multiple oil, energy, and utility companies for damages³ and *Comer v. Murphy Oil*, in which Mississippi residents sued a number of fossil-fuel-producing companies, claiming that their greenhouse gas emissions contributed to

¹ This paper benefited from my participation in the Berlin Conference on Global Environmental Change, 'Transformative Global Climate Governance après Paris', held on 23-24 May 2016, in Berlin. I am grateful to the conference participants who shared their views on my paper with me, particularly to Jennifer Morgan of Greenpeace International; however, the views expressed here are mine alone.

² *Massachusetts v. E.P.A.*, 549 U.S. 497 (2007); *American Elec. Power Co., Inc. v. Connecticut*, 564 U.S. 410 (2011); *Utility Air Regulatory Group v. E.P.A.*, 134 S. Ct. 2427 (2014).

³ *Native Village of Kivalina v. ExxonMobil Corp.*, 696 F.3d 849 (9th Cir. 2012).

global warming and sea-level rise, which added to the ferocity of Hurricane Katrina, ultimately causing damage to the plaintiffs' property.⁴

Throughout its rather brief history, the practice of bringing the issue of climate change into the courts has taken many forms, including lawsuits challenging agency permits and rules, lawsuits against agency inaction with regard to GHG emissions (or allegedly excessive action in the case of fossil-fuel-industry lawsuits), and lawsuits exploring the legal avenues offered by the common law or legislation related to endangered species and biodiversity.⁵ A number of lawsuits have now emerged, both in the United States and elsewhere, targeting states for lagging in climate change mitigation efforts, particularly with regard to GHG emission reductions, and invoking, among other things, the mechanisms offered by human rights law—namely, states' constitutional obligation to protect the natural environment and public health of present and future generations.⁶

In the United States, such litigation has taken the form of lawsuits brought by minors against federal and state authorities, claiming that the absence of comprehensive and cohesive measures to address climate change violates the common-law public trust doctrine⁷ and (or) the government's constitutional obligations. This analysis addresses a

⁴ *Comer v. Murphy Oil USA, Inc.*, 839 F.Supp.2d 849 (S.D.Miss. 2012).

⁵ For a discussion on the definition of climate change litigation, see David Markell and J. B. Ruhl, 'An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?', 64(1) *Florida Law Review* 15 (2012), at 26-27; Jacqueline Peel and Hari M. Osofsky, 'Climate Change Litigation's Regulatory Pathways: A Comparative Analysis of the United States and Australia', 35(3) *Law & Policy* 150 (2013), at 152-153 (discussing the difficulties and limitations in providing a general definition).

⁶ See, in general, Tracy Bach, 'Human Rights in a Climate Changed World: The Impact of COP21, Nationally Determined Contributions, and National Courts', 40(3) *Vermont Law Review* 561 (2016) (discussing the human rights perspectives in the recent climate law developments, including the Paris Agreement and the growing legal actions across the world). It should be observed that a human rights approach to climate change action against states has already been explored for more than a decade, most notably in a renowned Inuit petition to the Inter-American Commission on Human Rights. See Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States (7 December 2005) (summary of the petition is available at

<http://www.inuitcircumpolar.com/uploads/3/0/5/4/30542564/finalpetitionsummary.pdf> (last visited 17 May 2017); see also Hari M. Osofsky, 'Inuit Petition as a Bridge? Beyond Dialectics of Climate Change and Indigenous Peoples' Rights', 31(2) *American Indian Law Review* 675 (2007)). The petition was rejected, although as Peel and Osofsky put it, 'it probably has had some indirect regulatory influence, particularly in terms of changing norms and values through increasing the public profile of Arctic climate change impacts' (Peel and Osofsky, *supra* note 4, at 160). The subsequent actions across the world seem to corroborate this statement. For a brief but insightful essay on a human rights approach to climate change see Daniel Bodansky, 'Introduction: Climate Change and Human Rights: Unpacking the Issues', 38(3) *Georgia Journal of International and Comparative Law* 511 (2010).

⁷ In short, the public trust doctrine can be defined as requiring government to hold vital natural resources in trust for the public beneficiaries, thus protecting those resources from monopolization and/or destruction by private interests. See Mary Christina Wood and Charles W. Woodward IV, 'Atmospheric Trust Litigation and the Constitutional Right to a Healthy Climate System: Judicial Recognition at Last', 6(2) *Washington Journal of Environmental Law & Policy* 633 (2016), at 647-648 (referring to the cornerstone US Supreme Court decisions of the late XIX century and the seminal work on the application

recent case in Pennsylvania, where the petitioners asked the court to order the state government to act on climate change and also to declare such action a constitutional obligation under Pennsylvania's Constitution.

2. Initiation of the Action

Beginning in May 2011, a number of young people filed several petitions for rule-making with the Pennsylvania Department of Environmental Protection and other agencies in Pennsylvania as part of a nationwide legal campaign organized in every state of the United States by an Oregon-based non-profit, Our Children's Trust.⁸ Basing themselves on scientific information from the IPCC and the US Environmental Protection Agency, the petitioners expressed their concern for the planet's future in light of the potentially catastrophic impacts of climate change.⁹ They stressed the fact that the phenomenon of climate change is anthropogenically driven, caused by ever-growing GHG emissions, particularly CO₂, with Pennsylvania being among the top emitters of CO₂ in the United States.¹⁰ Relying on the public trust doctrine, enshrined in Article I, Section 27 of the Pennsylvania Constitution, the petitioners requested the Department of Environmental Protection and other agencies to adopt rules reducing the state's CO₂ emissions by 6 per cent per year starting in 2013; they claimed to have based this reduction rate on the best available science on climate recovery.¹¹

The aforementioned Constitutional provision, commonly referred to as the Environmental Rights Amendment (ERA),¹² provides that:

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.

In November 2012, the Department denied the petition, stating that the provisions of the ERA were properly protected by state legislation, which, inter alia, prohibited adopting any air quality standards that were more stringent than those established by the EPA—and that the EPA had no standards established for CO₂, or indeed for any other

of public trust doctrine in natural resource law by Joseph L. Sax, 'The public trust doctrine in natural resource law: Effective judicial intervention', 68(3) *Michigan Law Review* 471 (1970)).

⁸ See <http://www.ourchildrenstrust.org/> (last visited 17 May 2017).

⁹ See Petition of Ashley Funk and Kids vs. Global Warming to the Pennsylvania Environmental Quality Board and Pennsylvania Department of Environmental Protection of October 2, 2012. Available at <http://static1.squarespace.com/static/571d109b04426270152febe0/t/5760cd1040261d1b7dfcefc/1465961746868/PA.Petition.10.2.12.pdf> (last visited 17 May 2017), at 5-6, 11.

¹⁰ *Ibid.*, at 7-9.

¹¹ *Ibid.*, at 3-4.

¹² Pa. Const. Art. 1, § 27. The amendment was adopted on 18 May 1971.

greenhouse gas.¹³ Following this, petitioner Ashley Funk filed an appeal with an administrative appeal board and also brought a civil action in the Commonwealth Court of Pennsylvania, challenging the petition's denial.¹⁴ In 2014, the Department issued a report on the petition (more than 60 pages long) which concluded that the action proposed by the petition would fail to achieve its ultimate goal—a safe atmospheric concentration of CO₂ by 2100.¹⁵ One of the report's arguments was that the petition failed to take account of the fact that climate change requires a global remedy, not just mitigation action in Pennsylvania; the petition therefore failed to address the negligible contribution of Pennsylvania's emissions to the global total, the emission growth rates of major emitting countries such as China and India, the problem of carbon leakage, and the lifetime of GHGs in the atmosphere.¹⁶ The petitioner responded to the report, claiming that it contained a number of legal as well as scientific flaws;¹⁷ however, the petition was denied by Pennsylvania's Environmental Quality Board.

3. Case of *Funk v. Wolf*

3.1. Facts

Following the unsuccessful petition, an action was brought in September 2015, under the ERA, by a group of minors, including Ashley Funk, against the Governor of Pennsylvania, the state's Department of Environmental Protection, and various other state officials and agencies.¹⁸ The petitioners claimed that the respondents in the action had failed to fulfil their constitutional obligation by not developing and implementing a comprehensive plan to regulate CO₂ and other GHGs, in light of the present and future impacts of climate change.¹⁹ According to the petitioners, the impacts—including temperature increases leading to heat-related deaths, increase of ground-level ozone (which is linked to adverse health impacts), disruption of the hydrological cycle, sea-level rise, and degradation of water and forest resources—were already being felt in Pennsylvania and would only get worse.²⁰ The court was presented with examples of such effects on the petitioners; thus, one of them claimed that she had experienced extreme-weather anomalies attributed to climate change, including tornadoes, her house

¹³ The Department's response to the petition is available at http://static1.squarespace.com/static/571d109b04426270152febe0/t/5760ccb840261d1b7dfcee34/1465961658860/Petition+Denial.12.11.16_Redacted.pdf (last visited 17 May 2017), at 1-2.

¹⁴ Available at <http://www.ourchildrenstrust.org/pennsylvania> (last visited 17 May 2017).

¹⁵ Pennsylvania Department of Environmental Protection Evaluation Report on the Ashley Funk Petition for Rulemaking to Reduce Carbon Dioxide Emission. http://static1.squarespace.com/static/571d109b04426270152febe0/t/5760cc2507eaa0ea7777939a/1465961510958/Funk_CO2_Eval_Report_4-15-14_FINAL.pdf (last visited 17 May 2017), at 62.

¹⁶ *Ibid.*, at 58-61.

¹⁷ See Petitioner's Response to the Department's 15 April 2014 Evaluation Report. <http://static1.squarespace.com/static/571d109b04426270152febe0/t/5760cbe5ab48de66f7212f8b/1465961445861/ResponsetoDEPReport14.05.30.pdf> (last visited 17 May 2017).

¹⁸ *Funk v. Wolf*, 144 A.3d 228 (Pa.Cmwlth. 2016).

¹⁹ *Ibid.*, at 232-233.

²⁰ *Ibid.*, at 235-236.

was inundated during Hurricane Sandy in October 2012, and her enjoyment of outdoor summer activities was significantly impeded by rising temperatures, which also exacerbated her asthma and pollen allergy.²¹

The petitioners submitted that the consumption of fossil fuels was occurring at a considerable rate in Pennsylvania, based on US Energy Information Agency data.²² They argued that current science confirms that, in order to tackle climate change, the concentrations of CO₂ in the atmosphere must be reduced to, at most, 350 parts per million by 2100.²³ They further argued that current climate change legislation and policy were not in line with achieving that goal, and therefore that the ERA compels the respondents to set state emission limits and draw up a plan to meet them.²⁴ The petitioners sought a court order to compel the respondents to carry out studies, investigations, and other analyses to determine the impact of climate change on the rights established by the ERA, and to implement a comprehensive regulatory scheme to reduce GHG emissions, thus satisfying their constitutional obligations.²⁵ The petitioners stressed that they did not demand the imposition of any particular regulatory regime.²⁶ They additionally demanded a court declaration that the atmosphere is a resource protected by the ERA—i.e. a public trust asset—and a declaration that the respondents, being constitutionally obliged to protect the atmosphere, as well as other resources mentioned in the ERA, had failed to fulfil their obligation.²⁷

For their part, the respondents filed preliminary objections on standing, alleging that the petitioners' claims were based on the harm that was 'remote, speculative, and generalized', and the asserted interest did not go beyond the common interest of all citizens.²⁸ Additionally, they claimed that the petitioners did not have a right to require them to exercise their discretion in any particular way, while the declarations sought would have no practical effect on the parties.²⁹ The respondents further claimed that the petitioners' requests were already being implemented through a variety of programs and strategies, and moreover that the petition raised a non-justiciable political question.³⁰

3.2. *Standing*

The court dedicated a significant portion of its opinion to the question of standing. According to the case law, in order to have standing under Pennsylvania's prudential

²¹ *Ibid.*, at 246.

²² *Ibid.*, at 236.

²³ *Ibid.*, at 236-237.

²⁴ *Ibid.*, at 237-238.

²⁵ *Ibid.*

²⁶ *Ibid.*, at 239.

²⁷ *Ibid.*, at 238-239.

²⁸ *Ibid.*, at 239.

²⁹ *Ibid.*, at 239-241.

³⁰ *Ibid.*, at 241.

standing requirement,³¹ the person should be able to demonstrate a substantial, direct, and immediate interest in the outcome of the litigation.³² A substantial interest means that it surpasses the interest of all citizens.³³ It need not be pecuniary in nature; thus ‘Aesthetic and environmental well-being, like economic well-being, are important ingredients of the quality of life in our society, and the fact that particular environmental interests are shared by the many rather than the few does not make them less deserving of legal protection through the judicial process.’³⁴ An interest is direct when there is a causal link between the matter complained of and the alleged harm; and it is immediate when the causal link is not remote or speculative.³⁵

The court observed that although Pennsylvania’s prudential standing requirement differs from standing under Article III of the US Constitution, which is applied in federal courts,³⁶ Pennsylvania courts often look to the decisions of federal courts for guidance.³⁷ It is relevant, for example, that the US Supreme Court has held that ‘environmental plaintiffs adequately allege injury in fact when they aver that they use the affected area and are persons for whom the aesthetic and recreational values of the area will be lessened by the challenged activity’.³⁸ The Supreme Court has also said that denying standing to ‘persons who are in fact injured simply because many others are also injured, would mean that the most injurious and widespread Government actions could be questioned by nobody’, which is unacceptable.³⁹

³¹ ‘The requirement of standing under Pennsylvania law is prudential in nature, and stems from the principle that judicial intervention is appropriate only where the underlying controversy is real and concrete, rather than abstract.’ (*City of Philadelphia v. Com.*, 838 A.2d 566, at 577 (Pa. 2003)).

³² *Funk v. Wolf*, 144 A.3d at 243-244 (quoting *Fumo v. City of Philadelphia*, 972 A.2d 487, 496 (Pa. 2009)).

³³ *Ibid.*,

³⁴ *Wm. Penn Parking Garage, Inc. v. City of Pittsburgh*, 346 A.2d 269, at 281 n.20 (Pa. 1975) (quoting the US Supreme Court in *Sierra Club v. Morton*, 405 U.S. 727, 734 (1972)).

³⁵ *Fumo*, 972 A.2d at 496.

³⁶ According to Article III, the federal judicial power extends to cases (arising under the Constitution, laws or treaties of the United States, etc.) and controversies (to which the United States is a party, between two or more states, between citizens of different states, etc.) (U.S.C.A. Const. Art. III § 2, cl. 1). Thus, in the US federal courts ‘standing is both constitutional and prudential in nature, consisting of two strands: Article III standing, which enforces the federal Constitution’s case or controversy requirement, and prudential standing, which embodies ‘judicially self-imposed limits on the exercise of federal jurisdiction.’’ *Fumo*, 972 A.2d at 500 n.5 (citing *Elk Grove Unified School District v. Newdow*, 542 U.S. 1, 11–12 (2004)). With regard to Article III, the US Supreme Court articulated a three-element ‘irreducible constitutional minimum of standing’ in case *Lujan v. Defenders of Wildlife*, 504 U.S. 555, at 560-561 (1992) (the *Lujan* test): (1) injury in fact; (2) causation; and (3) likelihood that the injury will be redressed by a favourable decision. Because of the complexity of climate change phenomenon, the *Lujan* test has on many occasions resulted in the dismissal of the federal climate cases on standing grounds. See, for example, *Comer v. Murphy Oil USA, Inc.*, 839 F.Supp.2d at 861-862, and *Washington Environmental Council v. Bellon*, 732 F.3d 1131, 1139-1146 (9th Cir. 2013) (discussing how the scientific aspects of climate science played against the plaintiffs).

³⁷ *Fumo*, 972 A.2d at 500 n.5.

³⁸ *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 183 (2000).

³⁹ *Funk v. Wolf*, 144 A.3d at 244 (quoting *United States v. Students Challenging Regulatory Agency Procedures (SCRAP)*, 412 U.S. 669, 688 (1973)). Notably, this line of reasoning was also used in

In the present case, the court drew parallels between the allegations of harm presented by the petitioners and those in the case law—both federal and state—which had been found to go beyond the abstract interest of the general public.⁴⁰ The court recognized that although the weather conditions linked to climate change affect many people, the petitioners have suffered concrete harm, and this sufficiently distinguished them.⁴¹ The court also did not agree with the respondents that the different nature of other cases, involving harm resulting from actions such as permit decisions or legislative enactments, rendered them essentially different from the case under consideration, where the harm was said to emanate from a failure to act.⁴² The court found that the petitioners were entitled to rely on the fact that the ERA places an affirmative duty on the Commonwealth to prevent and remedy the degradation, diminution, or depletion of the public natural resources.⁴³

With regard to causation, the court observed that the petitioners' allegation that the respondents' failure to carry out their obligations under the ERA results in dangerous levels of CO₂ and other GHGs, contributing to the degradation of natural resources, is sufficient to establish a causal link.⁴⁴ As to whether the petitioners' interests were immediate, the court concluded that, since the ERA protects the rights of all people, including future generations, the petitioners' allegations about present as well as future harms⁴⁵ was not a reason to deny them standing.⁴⁶

3.3. Nature of Obligations under the ERA

Having granted standing to the petitioners, the court went on to examine the respondents' preliminary objections to the requested mandamus and declaratory relief. The issue was whether the ERA provided the petitioners with a clear right to the performance of their requested specific acts, and whether the performance of such acts by the respondents was mandatory in nature.

The court observed that infringement of the ERA rights may occur when the government has actually infringed upon citizen's rights or has failed in its trustee

Massachusetts v. E.P.A., only on that occasion it concerned the sovereign regulatory interest of a state. The Supreme Court stated that the fact that 'climate-change risks are "widely shared" does not minimize Massachusetts' interest in the outcome of this litigation'. (*Massachusetts v. E.P.A.*, 549 U.S. at 522).

⁴⁰ *Funk v. Wolf*, 144 A.3d at 247.

⁴¹ *Ibid.* (quoting *Wm. Penn Parking*, 346 A.2d at 287).

⁴² *Funk v. Wolf*, 144 A.3d at 247-248.

⁴³ *Ibid.* (quoting *Pa. Evtl. Def. Found.* 108 A.3d at 168).

⁴⁴ *Ibid.*

⁴⁵ With regard to the connection between the likely future harms and the immediate nature of the interest, the Supreme Court of Pennsylvania held that '[w]e need not wait until an ecological emergency arises in order to find that the interest of the municipality and county faced with such disaster is immediate.' See *Robinson Twp., Washington Cnty. v. Commonwealth*, 83 A.3d 901, at 920 (Pa. 2013) (quoting *Franklin Twp. v. Commonwealth*, 452 A.2d 718, 720 (Pa. 1982)).

⁴⁶ *Funk v. Wolf*, 144 A.3d at 248.

obligations.⁴⁷ However, although ‘expansive in its language’⁴⁸ and ‘giving greater weight to the environmental concerns in the decision-making process’ when such concerns are ‘juxtaposed with economic benefits’,⁴⁹ the ERA does not provide absolute priority to the environmental rights.⁵⁰ Instead, it requires policymakers to weigh conflicting environmental and social concerns in making their decisions, the legality of which is determined by the court in a three-fold test.⁵¹ By declaring the Commonwealth the trustee of public natural resources for the benefit of present and future generations, the ERA does not stipulate that its other duties, such as the maintenance of an adequate public highway system (which is also for the public’s benefit), should be neglected.⁵² The balance between environmental and social concerns is struck, for the most part, by the legislative bodies, through legislative action,⁵³ which sometimes delegates this power to the executive branch’s agencies and departments.⁵⁴ The exercise of such a discretion does not in itself ‘expand the powers of a statutory agency’.⁵⁵ Therefore, in assessing the ERA’s imposed duties on the executive, courts must remain cognizant of the balance that the legislature has struck between the abovementioned concerns.⁵⁶

On this basis, the court concluded that the case law interprets the scope of the ERA in a rather restrictive manner, that is, ‘it cannot legally operate to expand the powers of a statutory agency’, and it ‘could operate only to limit such powers as had been expressly delegated by proper enabling legislation’.⁵⁷ In other words, the balance between environmental and social concerns stems from the legislature, and any expansion of the ERA’s scope thereof would amount to the disturbance of the ‘legislative scheme’.⁵⁸

Regarding the case at hand, the legislative scheme included a number of acts addressing climate change, primarily Pennsylvania’s Climate Change Act⁵⁹ and Air Pollution Control Act,⁶⁰ which obliged the respondents to examine the potential impacts of

⁴⁷ *Ibid.*, at 233 (quoting *Robinson Twp.*, 83 A.3d at 950-951 and *Pa. Env’tl. Def. Found. v. Commonwealth*, 108 A.3d 140, at 156 (Pa.Cmwth. 2015)).

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*, at 234 (quoting *Pa. Env’tl. Def. Found.* 108 A.3d, at 170).

⁵⁰ *Ibid.*, at 233 (quoting *Payne v. Kassab*, 361 A.2d 263, 273 (Pa. 1976)).

⁵¹ *Ibid.*, at 233-234 (quoting *Payne v. Kassab*, 312 A.2d 86, 94 (Pa.Cmwth. 1973)). (1) Was there compliance with all applicable statutes and regulations relevant to the protection of the Commonwealth’s public natural resources? (2) Does the record demonstrate a reasonable effort to reduce the environmental incursion to a minimum? (3) Does the environmental harm which will result from the challenged decision or action so clearly outweigh the benefits to be derived therefrom that to proceed further would be an abuse of discretion?

⁵² *Ibid.*, at 234-235 (quoting *Payne v. Kassab*, 361 A.2d at 273).

⁵³ *Ibid.*, at 235 (quoting *Nat’l Solid Wastes Mgmt. Ass’n v. Casey*, 600 A.2d 260, 265 (Pa.Cmwth. 1991), *aff’d*, 619 A.2d 1063 (Pa. 1993)).

⁵⁴ *Ibid.*, (quoting *MCT Transp., Inc., v. Phila. Parking Auth.*, 60 A.3d 899, 904 (Pa.Cmwth. 2013)).

⁵⁵ *Ibid.*, at 235 (quoting *Cnty. Coll. of Delaware Cnty. v. Fox*, 342 A.2d 468, at 482 (Pa.Cmwth. 1975)).

⁵⁶ *Ibid.*

⁵⁷ *Ibid.*, at 249 (quoting *Cnty. Coll. of Delaware Cnty.*, 342 A.2d at 482).

⁵⁸ *Ibid.*, at 249-250 (quoting *Nat’l Solid Wastes Mgmt. Ass’n* 600 A.2d, at 265).

⁵⁹ Act of July 9, 2008, P.L. 935, 71 P.S. §§ 1361.1–1361.8.

⁶⁰ Act of January 8, 1960, P.L. 2119, *as amended*, 35 P.S. §§ 4001–4015.

climate change, prepare a report and action plan, and promulgate and implement rules and regulations to reduce CO₂ and other GHG emissions.⁶¹ The court agreed with the respondents' submission that those statutes did not require them to take the steps outlined by the petitioners,⁶² and noted that those steps were within the discretion of government officials or a task for the legislature.⁶³ Therefore, the petitioners did not have a clear right to have the respondents perform the requested actions.⁶⁴ As for the requested declaration, the court held that it would amount to a purely advisory opinion, and thus have no practical effect.⁶⁵ The case was dismissed.⁶⁶

3.4. Appeal

The petitioners appealed to the Supreme Court of Pennsylvania, challenging the lower court's order to sustain the preliminary objections on the requested mandamus and declaratory relief.⁶⁷ They claimed that the Commonwealth Court failed to consider the constitutional rights and duties created by the ERA itself,⁶⁸ and, by focusing solely on how the ERA was implemented through specific statutory enactments, ignored the constitutional nature of the ERA.⁶⁹ The state Supreme Court affirmed the order of the lower court in a single-sentence decision.⁷⁰

4. *Funk v. Wolf* on the Global Climate Change Litigation Landscape

Although the legal avenue for *Funk v. Wolf*—that is, the reliance on human rights and constitutional obligations—is a novelty for climate change lawsuits, the remedies sought were not new. The atmospheric trust litigation in the United States, including the Pennsylvania case, revolves around the interpretation of the public trust doctrine—an ancient legal principle.⁷¹ Its application in climate change litigation is still rather obscure,⁷² and is prone to criticism for trying to build 'a bridge too far'.⁷³ At the same

⁶¹ *Funk v. Wolf*, 144 A.3d at 250.

⁶² *Ibid.*

⁶³ *Ibid.*, at 250-251.

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*, at 251.

⁶⁶ *Ibid.*, at 252.

⁶⁷ See the text of the appeal available at

<https://static1.squarespace.com/static/571d109b04426270152febe0/t/58362976197aeac1e8d49460/1479944570378/2016.11.14+PA+Opening+Brief.pdf> (last visited May. 4, 2017), at 11-42.

⁶⁸ For more on this see Kenneth T. Kristl, 'The Devil Is in the Details: Articulating Practical Principles for Implementing the Duties in Pennsylvania's Environmental Rights Amendment', 28(4) *Georgetown Environmental Law Review* 589 (2016).

⁶⁹ *Ibid.*, at 11-12.

⁷⁰ *Funk v. Wolf*, A.3d, 2017 WL 1151148 (Mem) (Pa. 2017).

⁷¹ Wood and Woodward, *supra* note 6, at 648.

⁷² Thus, for example, several courts have declined to extend the public trust doctrine to the atmosphere; others, however, have held that the doctrine can extend to air and atmosphere. *Ibid.*, at 645, 657 and 663-664 (quoting the relevant case-law).

⁷³ See, for instance, Hope M. Babcock, 'What Can Be Done, If Anything, about the Dangerous Pendulum of Public Trust Scholars to Overextend Joseph Sax's Original Conception: Have We Produced a Bridge

time, it should be recalled that, in Pennsylvania, the doctrine is enshrined in state's constitution (ERA), which basically grants environmental human rights—a relatively rare occurrence in American constitutional law.⁷⁴ Even though the notion of public trust is present in other state constitutions,⁷⁵ the expressive nature of the ERA provides a concrete constitutional background for legal action,⁷⁶ just like it did in similar, non-US, climate change cases, in which the petitioners prevailed.

For example, in *Leghari v. Pakistan*, a farmer sued the government for its inaction and delay in implementing the National Climate Change Policy and in addressing vulnerabilities associated with climate change, alleging that the government had violated his constitutional rights to life and dignity, enshrined in Articles 9 and 14 of Pakistan's Constitution.⁷⁷ The Lahore High Court agreed and ordered the government to take the necessary steps to address the problem. Similarly, in *Gbemre v. Shell Petroleum*, the Federal High Court of Nigeria agreed with the citizen plaintiffs that the practice of flaring natural gas released during oil extraction was contrary to their rights to life and dignity, established in Nigeria's Constitution and the African Charter on Human and Peoples' Rights.⁷⁸ *Urgenda v. The Netherlands* is an even more eloquent example of employing the provisions of a national Constitution to protect the climate.

too Far?', 23(3) *NYU Environmental Law Journal* 390 (2015), at 402-406 (discussing the extension of the doctrine to the protection of the atmosphere and suggesting that such an approach may be contrary to the doctrine's original roots, as well as referring to similar views of other scholars); see also James L. Huffman, 'Why Liberating the Public Trust Doctrine Is Bad for the Public', 45(2) *Environmental Law* 337 (2015). Meanwhile, some other scholars have suggested that it would be more prudent to utilize the public trust doctrine in a narrower way, for example, against a particular source of environmental (including air and atmospheric) pollution, namely electricity production – see Lance Noel and Jeremy Firestone, 'Public Trust Doctrine Implications of Electricity Production', 5(1) *Michigan Journal of Environmental & Administrative Law* 169 (2015).

⁷⁴ *Robinson Twp.*, 83 A.3d at 962-963: 'The decision to affirm the people's environmental rights in a Declaration or Bill of Rights, alongside political rights, is relatively rare in American constitutional law. In addition to Pennsylvania, Montana and Rhode Island are the only other states of the Union to do so.'

⁷⁵ *Ibid.* See also Alexandra B Klass, 'The Public Trust Doctrine in the Shadow of State Environmental Rights Laws: A Case Study', 45(2) *Environmental Law* 431 (2015), at 439-440.

⁷⁶ With regard to the special place of the ERA in the context of other state constitutions, the Supreme Court of Pennsylvania stated the following: 'That Pennsylvania deliberately chose a course different from virtually all of its sister states speaks to the Commonwealth's experience of having the benefit of vast natural resources whose virtually unrestrained exploitation, while initially a boon to investors, industry, and citizens, led to destructive and lasting consequences not only for the environment but also for the citizens' quality of life. Later generations paid and continue to pay a tribute to early uncontrolled and unsustainable development financially, in health and quality of life consequences, and with the relegation to history books of valuable natural and esthetic aspects of our environmental inheritance. The drafters and the citizens of the Commonwealth who ratified the Environmental Rights Amendment, aware of this history, articulated the people's rights and the government's duties to the people in broad and flexible terms that would permit not only reactive but also anticipatory protection of the environment for the benefit of current and future generations.' *Robinson Twp.*, 83 A.3d at 963.

⁷⁷ See *Ashgar Leghari v. Federation of Pakistan*, W.P. No. 25501/2015 (2015) (the two Court orders are available at https://elaw.org/system/files/pk.leghari.091415_0.pdf and https://elaw.org/system/files/pk.leghari.090415_0.pdf) (last visited 17 May 2017).

⁷⁸ *Jonah Gbemre v. Shell, NNPC and AGF* (2005) Suit No.: FHC/B/CS/53/05. The difference between *Gbemre* and the abovementioned cases, is that it was brought against private parties, not the state.

The plaintiffs successfully invoked Article 21 of the Dutch Constitution, which provides that ‘It shall be the concern of the authorities to keep the country habitable and to protect and improve the environment’.⁷⁹ The Hague District Court was persuaded that the state had a constitutional obligation to take stronger measures to mitigate climate change; it ordered the state ‘to limit the joint volume of Dutch annual greenhouse gas emissions, or have them limited, so that this volume will have reduced by at least twenty five per cent at the end of 2020 compared to the level of the year 1990’.⁸⁰

Although these three cases were decided by national courts, a successful case has the potential to act as a benchmark and influence courts in other parts of the world.⁸¹ This is particularly relevant to the United States, where climate change litigation has played a strong regulatory gap-filling role.⁸²

A second point to be made is that the fact that these lawsuits invoke classical legal remedies does not render them immune to critical limitations. Such limitations have to do with the very nature and scale of the problem targeted by the plaintiffs.⁸³ It is not, therefore, surprising that many courts have been unwilling to take on a pioneering role in tackling climate change, instead dismissing the cases on various procedural grounds⁸⁴ and passing the problem back to the political branch.⁸⁵ To do otherwise could arguably

⁷⁹ *Urgenda Foundation v. The State of the Netherlands*, C/09/456689 / HA ZA 13-1396 (2015) (Hague District Court, the Netherlands) (available in English at <http://www.urgenda.nl/documents/VerdictDistrictCourt-UrgendavStaat-24.06.2015.pdf>) (last visited 17 May 2017), para. 2.69.

⁸⁰ Para. 5.1. It is worth mentioning that throughout its decision, the court had to operate within the complex synthesis of Dutch constitutional and civil law, international climate and human rights law, European Union law and the scientific data provided by the IPCC.

⁸¹ See, for example, Roger Cox, ‘A Climate Change Litigation Precedent: Urgenda Foundation v The State of the Netherlands’, 34(2) *Journal of Energy & Natural Resources Law* 143 (2016), at 162-163 (discussing a similar lawsuit in Belgium); Bach, supra note 5 at 585, 589-593 (discussing similar cases and legal initiatives in New Zealand, Pakistan and the Philippines). See also Sam Kalen, ‘An Aspirational Right to a Healthy Environment?’, 34(2) *UCLA Journal of Environmental Law & Policy* 156 (2016), at 170-172 (offering examples when the US jurisprudence has been affected by foreign and/or international jurisprudence).

⁸² See, for example, Jolene Lin, ‘Climate Change and the Courts’, 32(1) *Legal Studies* 35 (2012), at 35, 37; Hari M. Osofsky and Jaqueline Peel, ‘Litigation’s Regulatory Pathways and the Administrative State: Lessons from US and Australian Climate Change Governance’, 25(2) *Georgetown International Environmental Law Review* 207(2012), at 214-215; Michael B. Gerrard and Joseph A. MacDougald, ‘An Introduction to Climate Change Liability Litigation and a View to the Future’, 20(1) *Connecticut Insurance Law Journal* 153 (2013), at 153-154; (describing how the absence of adequate regulatory steps to address the problems of climate change spurred the rise of litigation).

⁸³ See, in general, Richard J. Lazarus, ‘Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future’, 94(5) *Cornell Law Review* 1153 (2009) (providing a comprehensive review on numerous factors challenging the regulation of climate change).

⁸⁴ Wood and Woodward, supra note 6, at 656-657.

⁸⁵ Apart from the atmospheric trust cases, an eloquent example of such reasoning has been presented by the US Court of Appeals for the Ninth Circuit in *Native Village of Kivalina v. ExxonMobil Corp.* 696 F.3d at 858: ‘[T]he Supreme Court has held that federal common law addressing domestic greenhouse gas emissions has been displaced by Congressional action. That determination displaces federal common law public nuisance actions seeking damages, as well as those actions seeking injunctive relief. ... Our

set the judiciary against the political branch, which is traditionally responsible for establishing the policy.⁸⁶ For their part, the defendants—the governments and regulatory bodies—are well aware of the thin ice on which the petitioners operate and subject them to almost identical challenges.⁸⁷ In the United States, in particular, such challenges have often proven to be fatal for the petitioners, as in the Pennsylvania case.⁸⁸ However, given the persisting political inertia,⁸⁹ this struggle between plaintiffs, respondents, courts, and the political branch will continue.⁹⁰

conclusion obviously does not aid Kivalina, which itself is being displaced by the rising sea. But the solution to Kivalina's dire circumstance must rest in the hands of the legislative and executive branches of our government, not the federal common law.'

⁸⁶ See, for example, Elizabeth Fuller Valentine, 'Arguments in Support of a Constitutional Right to Atmospheric Integrity', 32(1) *Pace Environmental Law Review* 56 (2015) (referring to political inaction and arguing that a constitutional right to a healthy atmosphere established by the judiciary would create a prerequisite for science-based governmental decisions); see also Eric A. Posner, 'Climate Change and International Human Rights Litigation: A Critical Appraisal', 155(6) *University of Pennsylvania Law Review* 1925 (2007), at 1944 (considering a stalled approach to intergovernmental decision-making and thus holding that 'the main purpose of litigation may not be to persuade courts to determine greenhouse gas emission policy, but to attract public attention and pressure governments to reach political solutions, including treaties and domestic laws') and David A. Wirth, 'The International and Domestic Law of Climate Change: A Binding International Agreement Without the Senate or Congress?', 39(2) *Harvard Environmental Law Review* 515 (2015) (discussing the legal and political issues in addressing the regulation of climate change in the United States).

⁸⁷ Most notably, these include the political question doctrine (or the separation of powers) and the alleged lack of standing. Furthermore, in *Urgenda*, the Government raised a number of objections to the merits of the case: that the Netherlands' contribution to the global GHG emissions was too negligible to consider, that other factors, such as the emissions of other countries and the expected carbon leakage had to be taken into account, etc. See *Urgenda*, paras. 3.3., 4.78.-4.82. As may be easily perceived, these claims were nearly identical to the abovementioned conclusions reached in Pennsylvania Department of Environmental Protection report with regard to the initial petition for rulemaking. See *supra* note 14. See also other atmospheric trust lawsuits that were nearly identically challenged: *Chernaik v. Kitzhaber*, 328 P.3d 799 (Or.App. 2014); *Kanuk ex rel. Kanuk v. State Dep't of Nat. Res.*, 335 P.3d 1088, 1096-1099 (Alaska 2014); *Sanders-Reed ex rel. Sanders-Reed v. Martinez*, 350 P.3d 1221 (N.M.App. 2015); *Juliana v. United States*, F.Supp.3d, WL 6661146, 83 ERC 1598 (D.Or. 2016).

⁸⁸ See, for example, the reasoning of the District Court for the District of Columbia in a similar federal atmospheric trust case *Alec L. v. Jackson*: 'In the present case, Plaintiffs are asking the Court to make ... determinations regarding carbon dioxide emissions. First, in order to find that there is a violation of the public trust – at least as the Plaintiffs have pled it – the Court must make an initial determination that current levels of carbon dioxide are too high and, therefore, the federal defendants have violated their fiduciary duties under the public trust. Then, the Court must make specific determinations as to the appropriate level of atmospheric carbon dioxide, as determine whether the climate recovery plan sought as relief will effectively attain that goal. Finally, the Court must not only retain jurisdiction of the matter, but also review and approve the Defendants' proposals for reducing greenhouse gas emissions. Ultimately, Plaintiffs are effectively seeking to have the Court mandate that federal agencies undertake specific regulatory activity, even if such regulatory activity is not required by any statute enacted by Congress. These are determinations that are best left to the federal agencies that are better equipped, and that have a Congressional mandate, to serve as the 'primary regulator of greenhouse gas emissions.' *Alec L. v. Jackson*, 863 F. Supp. 2D 11, 16-17 (D.D.C. 2012) (referring to the decision of the Supreme Court in *American Elec. Power Co., Inc. v. Connecticut*, 564 U.S. at 428 'Federal judges lack the scientific, economic, and technological resources an agency can utilize in coping with issues of this order').

⁸⁹ See *Juliana v. United States*, at 4 (observing that climate change, energy policy, and environmental regulation have motivated partisan and sectional debate during important portions of the US history). See

A third point, which both goes against and supports the second one, is that there are indications that the situation is changing, albeit slowly. Thus certain procedural hurdles, such as standing, do not seem to be critical, and the court's line of reasoning in this matter in *Funk v. Wolf* is very close to the line adopted by courts in other US federal and state atmospheric trust cases.⁹¹ It indicates that courts are more willing to accept the science of climate change and recognize its impact on individuals and communities, both present and future,⁹² despite the scientific uncertainty on certain aspects of impact.⁹³ Of course, granting standing to environmental activists is not enough, given the general unwillingness of courts to proceed to the merits⁹⁴—see also in this respect *Kanuk v. Alaska*.⁹⁵ This is not true of all US courts though.⁹⁶ But will US courts follow

also Hari M. Osofsky and Jacqueline Peel, 'The Grass is Not Always Greener: Congressional Dysfunction, Executive Action, and Climate Change in Comparative Perspective', 91(1) *Chicago-Kent Law Review* 139 (2016) (discussing the political issues shaping climate change policies in the United States and Australia).

⁹⁰ See, for example, Richard J. Lazarus, 'Judicial Missteps, Legislative Dysfunction, and the Public Trust Doctrine: Can Two Wrongs Make It Right?', 45(4) *Environmental Law* 1139 (2015), at 1149: (questioning the efficacy of relying on atmospheric trust doctrine in climate change litigation, yet observing that 'the absence of legislative environmental lawmaking, ... plainly calls into question [the] assertion that reliance on common law concepts such as the public trust doctrine would become increasingly unnecessary to address environmental protection concerns.')

⁹¹ See *Kanuk ex rel. Kanuk v. State Dep't of Nat. Res.*, 335 P.3d., 1092-1096; *Juliana v. United States*, at 9-14.

⁹² Thus, for instance, the Supreme Court itself acknowledged the importance of the science of climate change in *Massachusetts v. E.P.A.*, and stated that '[w]hile the Congresses ... might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete.' *Massachusetts v. E.P.A.* 549 U.S. 532 (2007). This position was later reiterated in *Utility Air Regulatory Group v. E.P.A.*, 134 S. Ct., at 2454. See also William H. Rodgers Jr and Andrea K. Rodgers, 'The Revival of Climate Change Science in U.S. Courts', 6(2) *Washington Journal of Environmental Law & Policy* 534 (2016).

⁹³ See Daniel A. Farber, 'Uncertainty', 99(4) *Georgetown Law Journal* 901 (2010), at 936-939; Douglas A. Kysar, 'What Climate Change Can Do about Tort Law', 41(1) *Environmental Law* 1 (2011), at 31-34.

⁹⁴ That is, in fact, contrary to the approach, advocated by legal scholars at the earlier stages of climate change litigation. See, for example, Benjamin Ewing and Douglas A. Kysar, 'Prods and Pleas: Limited Government in an Era of Unlimited Harm', 121(2) *Yale Law Journal* 350 (2011), at 355-356. See also a very early work on this topic by David R. Hodas, 'Standing and Climate Change: Can Anyone Complain About the Weather?', 15(2) *Journal of Land Use & Environmental Law* 451 (2000).

⁹⁵ *Kanuk ex rel. Kanuk v. State Dep't of Nat. Res.*, 335 P.3d at 1092-1103 (holding that petitioners had standing, but dismissing their claims on prudential grounds).

⁹⁶ See *Kain v. Department of Environmental Protection*, 49 N.E.3d 1124, 1142 (Mass. 2016) (holding that the regulatory initiatives of Massachusetts Department of Environmental Protection did not fulfil the specific requirements of the relevant climate change legislation. In that case, the Massachusetts Supreme Judicial Court required the department 'to promulgate regulations that address multiple sources or categories of sources of greenhouse gas emissions, impose a limit on emissions that may be released, limit the aggregate emissions released from each group of regulated sources or categories of sources, set emission limits for each year, and set limits that decline on an annual basis.');

Foster v. Washington Department of Ecology, 14-2-25295-1 SEA (Wash. Super. Ct. 2016) (ordering the Washington Department of Ecology to adopt a rule to limit GHG emissions in Washington state, which should be issued by the end of 2016, and provide a recommendation to the 2017 legislature on GHG emissions

the lead of the abovementioned non-US cases, where courts have heeded to petitioners arguments and urged the political branches to act? Taking such a step is not necessarily an encroachment on political power, since a court need not mandate any specific governmental action, limiting itself to a call on the government to live up to its constitutional obligations or international commitments to tackle climate change in a proper and effective manner.⁹⁷ Nevertheless, concern has already been expressed that, at least at the federal level, the US Supreme Court would eventually block such litigation.⁹⁸

Still, this should not preclude those concerned about the environment and the climate to seek judicial protection, especially as presently, the courts' approach to the problem of climate change seems somewhat fluid; however, a united and global action is required to actually make a difference. There are signs that this process is underway.⁹⁹

5. Conclusion

In the Pennsylvania atmospheric trust case, the court opposed the idea of interpreting the constitutional protection of natural resources in the Environmental Rights Amendment of the state's Constitution as granting the right to have the government perform the mitigation actions on climate change. In doing so, the court followed the traditional approach of leaving such questions to the political branch. At the same time,

limits for the state of Washington) (for an assessment of the latter case see Wood and Woodward IV, supra note 6, at 668-683); *Juliana v. United States* (dismissing the challenges related to political question doctrine, petitioners' standing and due process claims).

⁹⁷ In *Urgenda*, for example, the Court explicitly stated that 'the claim discussed here is not intended to order or prohibit the State from taking *certain* legislative measures or adopting a *certain* policy. ... the State will retain full freedom, which is pre-eminently vested in it, to determine how to comply with the order concerned' (para. 4.101.). Similarly, in *Juliana v. United States* the court stressed that the plaintiffs 'do not seek to have this Court direct any individual agency to issue or enforce any particular regulation. Rather, they ask the Court to declare the United States' current environmental policy infringes their fundamental rights, direct the agencies to conduct a consumption-based inventory of United States CO₂ emissions, and use that inventory to prepare and implement an enforceable national remedial plan to phase out fossil fuel emissions and draw down excess atmospheric CO₂ so as to stabilize the climate system and protect the vital resources on which Plaintiffs now and in the future will depend.' Therefore, this Court 'could issue the requested declaration without directing any individual agency to take any particular action' (at 6). See also *Martinez v. Colorado Oil and Gas Conservation Commission*, P.3d, 2017 WL 1089556 (Colo.App. 2017) (holding that the Colorado Oil and Gas Conservation Commission has the authority to review the rulemaking petition).

⁹⁸ Renee Cho, 'Climate Change Under Trump: A Q&A with Michael Gerrard', The Earth Institute at Columbia University, 15 November 2016, <http://blogs.ei.columbia.edu/2016/11/15/climate-change-under-trump-a-qa-with-michael-gerrard/> (last visited 17 May 2017).

⁹⁹ Thus, if litigation fails to 'lea[d] to a change in the legal regime governing climate change or GHG emissions', it 'may ... have *indirect* influences on regulation, or indirectly serve as regulation, through providing a motivation for action to reduce emissions or adapt to climate change by government, corporations, environmental groups, and/or individuals. Litigation here has a regulatory influence through raising public awareness of the climate change problem or generating shifts in public opinion, values, or norms following a decision (or decisions); or by increasing the costs associated with particular projects or business practices.' Peel and Osofsky, supra note 4, at 154-155.

the court's assessment of the petitioners' standing reflects the general trend of accepting the science of climate change and taking its impact on individuals and communities seriously. This is significant as the courts gradually acknowledge the threat of climate change, not only to the present generation, but also to future ones. Overall, the case is a good example of the judiciary's current approach. It reveals the limitations that continue to undermine the role of courts in protecting environmental rights in light of climate change, yet it also reflects a trend that may overcome such limitations in the future.