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RACISM AND TOXIC BURDEN IN RURAL DIXIE

MARY FINLEY-BROOK* & ENVIRONMENTAL JUSTICE RESEARCHERS**

ABSTRACT

Rural pollution hotspots receive inadequate attention during impact assessments: low population density is strategically used to suggest rural areas lack critical importance. Local resistance led to a legal victory for Union Hill, Virginia, where a door-to-door household study of demographics and family heritage exposed data inequities and biases in state practices, establishing a precedent for attention to environmental injustice and disproportionate cumulative impacts on rural majority Black communities. Critical legal geographies of cases from Buckingham, Pittsylvania, and Charles City Counties in the Commonwealth of Virginia document patterns in the ways fossil fuel ‘sacrifice zones’ intersect with historic colonialism in rural areas sustaining patterns of discrimination toward minority and low-wealth families. These cases illustrate the impact of citizen science and community expertise needed to counter data inequities in permitting processes, and the need for geospatial mapping of toxic polluting sites as visual evidence of already existing adverse environmental health impacts. Participatory action research employs community-informed

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** There are a number of environmental justice researchers who collaborated and contributed their expertise to create this Article. Their current affiliations are listed in Appendix A of this Article: Chad Oba; Lakshmi Fjord; Richard W. Walker; La’Veesha Rollins Allen; Faith Harris; Crystal Cavalier; Queen Zakia Shabazz; Jessica Sims; Kendyl Crawford; Kay Leigh Ferguson; Heidi Dhivya Berthoud; Karen Campblin; Wanda Roberts; Kidest Gebre; Caroline Hansley; Steve Fuhrmann; Elizabeth Kreydatus; Irene Leech; Emily Satterwhite; Roberto Chia Balmaceda; McKenna Dunbar; Ashley Appolon; and Stephen Metts.

pathways to reverse disparities and promote meaningful engagement and fair treatment of rural populations.¹ Market and power analyses of ten factors reveals ways landowners and communities are systematically and persistently disadvantaged, while examples of five pathways demonstrate necessary transformation.

INTRODUCTION: RURAL INJUSTICE—SOURCES, SINKS, AND CORRIDORS

Struggles for survival and well-being in Indigenous and Black communities come to the fore during controversial rural economic development projects like mega-landfills, open-pit mines, and interstate gas pipelines.² Energy colonialism, like other resource exploitation, forces low-wealth areas to bear high costs from infrastructure (e.g., living with pollution, noise, stress, conflict, etc.), while outside investors gain the majority of financial and other rewards.³ For example, rural areas have the lowest cost easements for oil and gas (“O&G”) transmission corridors with less stringent safety protocols.⁴ Peripheral areas often serve as pollution sinks for exported waste or contamination, as remote localities often have less capacity for environmental enforcement.⁵ At the same time, rural areas remain essential sources for key natural resources, including timber, minerals and agricultural production.⁶

¹ Dozens of people from central Virginia co-produced the knowledge gathered here during preparation for and participation in hundreds of hours of testimony to the Governor’s advisory councils, Virginia Department of Environmental Quality, Air Board, Water Board, and additional forums. Scholars, non-profit organizations, and faith leaders provided technical support to front line residents during permitting processes. Our mixed methods integrated ecological, geospatial, political, economic, and social data with local knowledge. Collaborative documentation incorporates lived experience to counterbalance managerialism found in rushed, poorly resourced state environmental agencies.

² Ryan E. Emanuel, *Flawed Environmental Justice Analyses*, 357 SCI. MAGAZINE 260, 260 (2017).

³ Mary Finley-Brook & Curtis Thomas, *Renewable Energy and Human Rights Violations: Illustrative Cases from Indigenous Territories in Panama*, 101 ANNALS OF THE ASS’N AM. GEOGRAPHERS 863, 864 (2011).

⁴ Pipeline regulations allow thinner walls of pipes in rural areas as well as greater spacing between shut off valves. Data on rural pipeline spills and fires is incomplete. See Mike Lee & Mike Soraghan, *Deadly Pipelines, No Rules*, E&E NEWS (March 4, 2019, 7:19 AM), <https://www.eenews.net/articles/deadly-pipelines-no-rules/> [<https://perma.cc/KT9F-GDHZ>].

⁵ Mary Finley-Brook & Osvaldo Jordan Ramos, *Energy Violence and Uneven Development*, in THE ROUTLEDGE HANDBOOK OF LATIN AMERICAN DEVELOPMENT 446–57, 448 (Julie Cupples et al. eds., 2018).

⁶ OLUGBENGA AJILORE & CAIUS Z. WILLINGHAM, REDEFINING RURAL AMERICA, CTR. AM. PROGRESS 2 (July 2019), <https://www.americanprogress.org/article/redefining-rural-america/> [<https://perma.cc/H2BC-Q2AC>].

Extended social, economic and political inequalities manifest in material and symbolic means of exclusion and oppression known as structural violence, with the extreme forms of violence leading to structural extermination.⁷ Black and Brown people have been—and continue to be—erased from Appalachian geographies,⁸ while white, low-wealth Appalachians are disproportionately impacted by coal extraction and now fracking.⁹ Genocidal treatment of Indigenous Peoples contributed to present-day fragmentation and marginalization, while anti-Black racism led to strategies to ‘divide and conquer’ these minorities by pitting them against each other.¹⁰ Infrastructure expansion reinforces displacement and racial injustice embedded through centuries of exploitation and unfair treatment based on race, class, age, health status and other characteristics.¹¹

Part I of this review involves justice-centered analysis of legal geographies attending to how complex social and ecological spaces relate to limits under state regulations and the spatial extent of laws and normative frameworks.¹² Part II presents illustrated cases in Buckingham, Pittsylvania, and Charles City Counties.¹³ While gas permits in all three hotspots originally received approval from Virginia’s Department of Environmental Quality (“DEQ”), some later hit legal, financial or regulatory roadblocks.¹⁴ Industrial corridors and landfills expand in two hotspots, while mining operations grow in all three. Market and power analysis in Part III discusses why environmental injustice becomes entrenched and persists,¹⁵ while Part IV highlights transformative initiatives under development.¹⁶

I. PLACING ENVIRONMENTAL JUSTICE IN LEGAL GEOGRAPHIES

Defying historical trends, several proposed projects from our reference area in the Commonwealth of Virginia were halted in recent years

⁷ Etienne C. Toussaint, *Black Urban Ecologies and Structural Extermination*, 45 HARV. ENV’T L. REV. 447, 447 (2021).

⁸ Jacob L. Stump, *What Is the Use of the Colonial Model (or, Better Yet, the Concept of Coloniality) for Studying Appalachia?*, 24 J. APPALACHIAN STUDIES 151, 155 (2018).

⁹ Tim Donaghy & Charlie Jiang, *Fossil Fuel Racism*, GREENPEACE (Apr. 13, 2021), <https://www.greenpeace.org/usa/reports/fossil-fuel-racism/> [<https://perma.cc/3PQ7-E7TN>].

¹⁰ Stump, *supra* note 8, at 163.

¹¹ Mary Finley-Brook et al., *Critical Energy Justice in US Natural Gas Infrastructuring*, 41 ENERGY RSCH. & SOC. SCI., 176, 176 (2018).

¹² See *infra* Part I.

¹³ See *infra* Part II.

¹⁴ See *infra* Part II.

¹⁵ See *infra* Part III.

¹⁶ See *infra* Part IV.

due to the documented harm they would bring to minority rural families.¹⁷ Permits in Buckingham, Pittsylvania, and Charles City Counties faced grassroots resistance that coincided with a growing statewide environmental justice movement demanding: (1) greater participation and transparency in regulatory processes; and (2) policy and procedural responses to address environmental racism.¹⁸ Front line, legal, academic, and non-governmental (“NGO”) efforts combined in recent years to pressure for reform of environmental racism.¹⁹ The establishment of a statewide Virginia Environmental Justice Collaborative (“VEJC”) in 2014 was an influence in the creation of the Governor’s Advisory Council on Environmental Justice (“ACEJ”)²⁰ and the 2020 Environmental Justice Act (“EJ Act”).²¹ In 2017, a People’s Tribunal connected to international efforts aiming to hold the gas industry accountable.²² Since environmental justice reforms remain under development, collaborations covered here fit with anthropologist Charlie Hale’s frame of “using and refusing the law”²³ to defend the rights of People of Color.²⁴ In Virginia, this reform process

¹⁷ For example, see Regina Paparo, *Not a Box to Be Checked: Environmental Justice and Friends of Buckingham v. State Air Pollution Control Board* (4th Cir. 2020), 45 HARV. ENV'T L. REV. 219, 222 (2021).

¹⁸ *Id.* at 219, 221, 224.

¹⁹ *Id.* at 221–24.

²⁰ On October 29, 2017, Governor McAuliffe announced his environmental justice advisory council, which was recommended by VEJC as part of public comments regarding Virginia efforts to align with the Clean Power Plan. Press Release, Va. Environmental Justice Collaborative, Statement on Gov. McAuliffe’s Announcement to Create an Environmental Justice Advisory Council (Oct. 31, 2017), https://www.newvirginiamajority.org/ejac_statement [<https://perma.cc/G8N2-6YBZ>]. In 2019, the council was renamed as the Virginia Council on Environmental Justice (“VCEJ”). *Virginia Council on Environmental Justice*, SEC’Y OF NAT. & HIST. RES., <https://www.naturalresources.virginia.gov/initiatives/environmental-justice/> [<https://perma.cc/7GGS-BTJG>] (last visited Apr. 3, 2022).

²¹ VA. CODE ANN. § 2.2-234–2.2-235 (2020) (Virginia Environmental Justice Act).

²² See *Atlantic Coastal Pipeline & Mountain Valley Pipeline*, PEOPLES’ TRIBUNAL ON THE HUMAN RIGHTS AND ENVIRONMENTAL JUSTICE IMPACTS OF FRACKED GAS INFRASTRUCTURE, <https://www.envirjustice-acp-mvp-peoplestribunals.org/> [<https://perma.cc/H7XZ-GRWA>] (last visited Apr. 3, 2022); *About the PPT*, THE PERMANENT PEOPLES’ TRIBUNAL ON HUMAN RIGHTS, FRACKING AND CLIMATE CHANGE, <https://www.tribunalonfracking.org/this-session-is-historic/> [<https://perma.cc/SJM7-PJHR>] (last visited Apr. 3, 2022).

²³ Charles R. Hale, *Using and Refusing the Law: Indigenous Struggles and Legal Strategies after Neoliberal Multiculturalism*, 122 AM. ANTHROPOLOGIST 618, 618 (2020).

²⁴ There are diverse facets of the movement; see, e.g., F. B. HARRIS, & K. C. CRAWFORD, A WOMANIST AND INTERFAITH RESPONSE TO CLIMATE CHANGE, in RELIGION, SUSTAINABILITY, AND PLACE: MORAL GEOGRAPHIES OF THE ANTHROPOCENE 355, 357–58 (Steven E. Silvern & Edward H. Davis, eds., 2021).

has required activism at a grassroots level as well as “ground up” lawyering²⁵ and other community-based technical support.²⁶

In the first case, *Friends of Buckingham vs. Air Pollution Control Board*,²⁷ an air permit for the now defunct Atlantic Coast Pipeline (“ACP”) compressor station (“CS”) in Union Hill at the proposed intersection with Williams’ Transcontinental Pipeline (“Transco”) was overturned in 2020 by the U.S. Court of Appeals for the Fourth Circuit, as argued by Southern Environmental Law Center (“SELC”) and Chesapeake Bay Foundation.²⁸ Based on Virginia-specific environmental justice requirements, the Fourth Circuit found that the state permitting authority failed to adequately consider the health impacts on the community and the suitability of the site for the proposed CS, and vacated the permit.³⁰ The site choice for the large CS, a majority-minority, historic Free Black built community, was reversed on community-based evidence proving disproportionate health impacts on an environmental justice community.³¹ In the second case study, an air permit for a third CS to be sited in Chatham was denied using precedent from *Friends of Buckingham* and stipulations in the 2020 Virginia EJ Act.³² These norms are applied to our third and final case study in Charles City County, host site of a mega-landfill for more than three decades, and expansion of Dominion Energy’s Chickahominy Substation launched a scheme to create an energy export hub.³³

²⁵ Marianne Engelman Lado & Kenneth Rumelt, *Pipeline Struggles: Case Studies in Ground up Lawyering*, 45 HARV. ENV’T L. REV. 377, 377 (2021).

²⁶ *Id.* at 389.

²⁷ *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 93 (4th Cir. 2020).

²⁸ *SELC’s Pipeline Team Reflects on the Path to Victory*, S. ENV’T L. CTR. (July 9, 2020), <https://www.southernenvironment.org/news/selcs-pipeline-team-reflects-on-the-path-to-victory/> [<https://perma.cc/VP8F-PS9C>].

²⁹ *Atlantic Coast Natural Gas Pipeline*, CHESAPEAKE BAY FOUND., <https://www.cbf.org/about-cbf/locations/virginia/issues/atlantic-coast-natural-gas-pipeline.html> [<https://perma.cc/Z66N-97Q4?type=image>] (last visited Apr. 3, 2022).

³⁰ Lauren Bachtel et al., *Navigating Environmental Justice Issues in Federal Permitting*, 36 NAT. RES. ENV’T 4, 5 (2021).

³¹ Brenda Mallory & David Neal, *Practicing on Uneven Ground: Raising Environmental Justice Claims under Race-Neutral Laws*, 45 HARV. L. REV. 296, 302 (2021).

³² Front Porch Blog, *Wins and Losses Come as the Fight Against the Mountain Valley Pipeline Continues*, APPALACHIAN VOICES (Dec. 16, 2021), <https://appvoices.org/2021/12/16/wins-and-losses-come-as-the-fight-against-the-mountain-valley-pipeline-continues/> [<https://perma.cc/T2GE-DT52>].

³³ Elizabeth McGowan, *In Virginia, Momentum Grows for Grassroots Group Mobilized Against Now-Canceled Gas Plant*, ENERGY NEWS NETWORK (Oct. 19, 2021), <https://energynews.us/2021/10/19/in-virginia-momentum-grows-for-grassroots-group-mobilized-against-now-canceled-gas-plant/> [<https://perma.cc/B7DY-RZDK>].

New regulatory frames for the Commonwealth to advance more sustainable and equitable development, like the 2020 EJ Act,³⁴ do not fit easily within or on top of deeply entrenched systems of bigotry or internal colonialism.³⁵ Historic logging, mining, and agricultural operations released mobile and stationary pollutants; many remain stored in soil, air and water as legacy burdens.³⁶ Today, market demands grow for cheaply produced unconventional fossil gas, wood pellets, plywood, meat and other products from industrial confined animal feeding operations (“CAFOs”), metals/ores, landfill gas (waste-to-energy), and other industries currently proliferating in rural areas across the U.S. South.³⁷

Justice-making in legal and permitting strategies requires meaningful involvement of People of Color, low-wealth households and other politically and economically marginalized groups in every stage of a project. In large part, these practices involve creating data equity to prove disproportionate adverse impacts.³⁸ Environmental justice processes must be established during the entire life cycle of projects, from planning through decommissioning to post-use monitoring and mitigation. Current practices during the expansion of landfills and gas infrastructure in Virginia fail to meet these standards, as discussed below.³⁹ There is less documentation of industry corridors and megabits placed in rural areas, a popular Virginia strategy, or surface mining, a rapidly expanding activity requiring urgent attention.⁴⁰

³⁴ VA. CODE ANN. § 2.2-235 (2020).

³⁵ COMMISSION TO EXAMINE RACIAL AND ECONOMIC INEQUITY IN VIRGINIA LAW & THE COMMISSION TO EXAMINE RACIAL AND ECONOMIC INEQUITY IN VIRGINIA LAW, SETTING A PATH FOR A MORE EQUITABLE COMMONWEALTH 4 (Jan. 6, 2022), <https://web.archive.org/web/20220111183928/https://www.governor.virginia.gov/media/governorviriniagov/governor-of-virginia/pdf/Setting-a-Path-For-a-More-Equitable-Commonwealth.pdf> [https://perma.cc/Q3D2-57SY].

³⁶ *Where Does Air Pollution Come From?*, NAT'L PARK SERV., <https://www.nps.gov/subjects/air/sources.htm> [https://perma.cc/STK4-BCKC] (last visited Apr. 3, 2022).

³⁷ *Unconventional Gas, a Global Phenomenon*, WORLD ENERGY COUNCIL, <https://www.worldenergy.org/publications/entry/unconventional-gas-a-global-phenomenon> [https://perma.cc/ZX3U-X5QL] (last visited Apr. 3, 2022).

³⁸ Juliana Maantay, *Mapping Environmental Injustices: Pitfalls and Potential of Geographic Information Systems in Assessing Environmental Health and Equity*, 110 ENVIRONMENTAL HEALTH PERSPECTIVES 161, 165–66 (2002).

³⁹ See discussion *infra* Section I.A.

⁴⁰ Sarah Vogelsong, *After Opposition to Gold Mining in Buckingham, General Assembly Weighs Temporary Ban and Study*, VA. MERCURY (Feb. 12, 2021, 12:03 AM), <https://www.virginiamercury.com/2021/02/12/after-opposition-to-gold-mining-in-buckingham-general-assembly-weighs-temporary-ban-and-study/> [https://perma.cc/5HAF-C937].

A. *Dumping in Dixie Redux*

A commonly recognized origin of the U.S. environmental justice movement was the series of protests in Warren County, North Carolina, in 1982, over a landfill in a small Black community.⁴¹ Hauling toxic and hazardous materials across long distances to dump on these families exhibits intentional harm.⁴² Forty years later, unfair patterns continue; for example, a town in Alabama was left with an abandoned train of urban sewage sludge that “smelled like death” for months.⁴³ Rural areas hosting landfills have been given insufficient attention for decades,⁴⁴ particularly since consolidation of waste management means bigger landfills and other facilities as companies seek to generate more profit by cutting costs while hauling and storing massive amounts of trash.⁴⁵ Large companies like Waste Management⁴⁶ drive this transition, although they function with limited transparency.⁴⁷ In 2020, Waste Management’s earned revenue

⁴¹ The Warren County landfill struggle became a watershed moment when Black leaders identified how the environmental injustice in this community was part of a broad pattern of disproportionate harm in communities of color and low wealth areas. ROBERT D. BULLARD, *DUMPING IN DIXIE: RACE, CLASS, AND ENVIRONMENTAL QUALITY* 30–31 (Routledge, 3d. ed. 2000).

⁴² Darryl Fears & Brandy Dennis, *‘This is Environmental Racism’: How a Protest in a North Carolina Farming Town Sparked a National Movement*, WASH. POST (Apr. 6, 2021), <https://www.washingtonpost.com/climate-environment/interactive/2021/environmental-justice-race/> [<https://perma.cc/Y29R-2SVZ>].

⁴³ Jeff Martin & Jay Reeves, ASSOCIATED PRESS, *‘It smells like death.’ Alabama Endures NYC ‘Poop Train,’* WCYB (Apr. 18, 2018), <https://wcyb.com/news/nation-world/it-smells-like-death-alabama-endures-nyc-poop-train-04-18-2018-152938663> [<https://perma.cc/MJ6Z-AWTK>].

⁴⁴ Kim Diana Connolly, *Small Town Trash: A Model Comprehensive Solid Waste Ordinance for Rural Areas of the United States*, 53 CATH. UNIV. L. REV. 1, 3, 4, 33 (2004).

⁴⁵ Neil Seldman, *Monopoly and the U.S. Waste Knot*, INST. LOCAL SELF-RELIANCE (ILSR) (Dec. 4, 2018), <https://ilsr.org/monopoly-and-the-us-waste-knot/> [<https://perma.cc/HE4U-9JSM>].

⁴⁶ Waste Management was formerly known as USA Waste Services until adopting the Waste Management name in 1998. *Investor FAQs*, WASTE MANAGEMENT, <http://investors.wm.com/why-invest/investor-faqs> [<https://perma.cc/G3GQ-QJS7>] (last visited Apr. 3, 2022).

⁴⁷ See Charles Mullis & Mary Finley-Brook, *Waste Management’s ‘Bait-and-Switch’ Sustainability Continues to Harm Communities* VA. MERCURY (Mar. 2, 2022, 12:03 AM), <https://www.virginiamercury.com/2022/03/02/waste-managements-bait-and-switch-sustainability-continues-to-harm-communities/> [<https://perma.cc/XN3Y-CVZM>]. The authors of this Article experienced the limited transparency firsthand. For example, Concerned Citizens of Charles City County (“C5”) asked on August 25, 2021, for financial information about the landfill located in their community for thirty years and were told by Brian McClung (Waste Management Senior District Manager) that this was proprietary information

was \$15.22 billion, with returns on par with the S&P 500.⁴⁸ Waste Management is traded publicly, and one of its largest shareholders is Bill Gates.⁴⁹

Virginia imports interstate waste.⁵⁰ Household and commercial waste streams frequently include dangerous and toxic items.⁵¹ Waste in landfills undergoes chemical, physical, and biological reactions during which nutrients, elements, and gasses are released.⁵² Many of the contaminants are persistent in the environment for a long period.⁵³ Waste comes into contact with water and creates leachate.⁵⁴ Leachate commonly contains biologically degradable and nondegradable organic compounds including heavy metals and endocrine disrupting chemicals.⁵⁵ Leachate systems may backup, leading to discharge,⁵⁶ and liners degrade with time allowing

Waste Management was not required to share. Waste Management did report that the Charles City landfill has a total of twelve employees; the majority do not originate from the county.

⁴⁸ As of April 26, 2021, if you invested \$1,000 in Waste Management a decade ago, this is how much it'd be worth now. *Waste Management Stock Price Today*, ZACK'S EQUITY RESEARCH, <https://www.zacks.com/stock/quote/WM> [<https://perma.cc/UXN8-ZU2U>] (last updated Apr. 3, 2022).

⁴⁹ *Waste Management, Inc. (WM) Stock Major Holders*, YAHOO! FINANCE, <https://finance.yahoo.com/quote/WM/holders> [<https://perma.cc/4QBS-A3ML>] (last updated Apr. 6, 2022).

⁵⁰ 2021 ANNUAL SOLID WASTE REPORT FOR CY2020, VA DEP'T ENV'T QUALITY (June 2021), <https://www.deq.virginia.gov/home/showpublisheddocument/9500> [<https://perma.cc/8MAP-5K3D>].

⁵¹ Common items sent to landfills include batteries, paints, unused/expired medicines, cleaners, oils, broken electronic devices, pesticides, and more. Some states ban many toxic or dangerous items from landfills (e.g., household cleaners, tires, fluorescent bulbs, NiCad batteries, oil filters, propane tanks, mercury-containing products, electronic devices, dry-wall, construction and demolition waste). Trey Granger, *What's Banned in Landfills: A State-by-State Guide*, EARTH911.COM (Nov. 27, 2017), <https://earth911.com/business-policy/landfill-bans/> [<https://perma.cc/U687-7DH9>]. Virginia only restricts asbestos, car batteries, liquid waste, medical waste, and motor oil. *Id.*

⁵² AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR), LANDFILL GAS PRIMER: AN OVERVIEW FOR ENVIRONMENTAL HEALTH PROFESSIONALS 8, 21 (Nov. 2001), <https://www.atsdr.cdc.gov/HAC/landfill/html/intro.html> [<https://perma.cc/F5GP-ASFN>].

⁵³ Ronald Weber et al., *Persistent Organic Pollutants and Landfills—a Review of Past Experiences and Future Challenges*, 29 WASTE MGMT. & RSCH. 107, 107 (2011).

⁵⁴ Maheshi Danthurebandara et al., *Environmental and Socio-economic Impacts of Landfills*, 2012 LINNAEUS ECO-TECH 40, 44 (2012). CENTER FOR HEALTH, ENVIRONMENT & JUSTICE, LANDFILL FAILURES: THE BURIED TRUTH (Aug. 2019), <http://chej.org/wp-content/uploads/Landfill-Failures-009-2019.pdf> [<https://perma.cc/STK3-D42W>].

⁵⁵ Fahmida Parvin & Shafi M. Tareq, *Impact of Landfill Leachate Contamination on Surface and Groundwater of Bangladesh: A Systematic Review and Possible Public Health Risks Assessment*, 11 APPLIED WATER SCI. 1, 1 (2021).

⁵⁶ Marco Vocciante & Valery Meshalkin, *An Accurate Inverse Model for the Detection of Leaks in Sealed Landfills*, 12 SUSTAINABILITY 2, 6 (2020).

leachate to pass through.⁵⁷ In addition to water pollution from leachate, landfills generate truck dust and diesel exhaust (fine particulate matter pollution), other forms of air pollution, including benzene, toluene, ethylbenzene and xylene compounds (“BETX”),⁵⁸ methane, and other leaks and off-gassing, and constant noise.⁵⁹

Landfill emissions have been tied to serious and fatal illnesses,⁶⁰ including respiratory diseases,⁶¹ cancer,⁶² birth defects, children’s neural developmental disabilities, and gastrointestinal problems.⁶³ Negative health implications appear particularly concerning for sensitive populations (e.g., infants, elderly).⁶⁴ Consequences are worrisome for low-income households with limited health care, as diagnosis and treatment plans may be delayed until advanced stages of illness.⁶⁵ Contaminants from rural landfills also enter into food systems with consequences for agricultural crops and livestock.⁶⁶

⁵⁷ Kirstie Pecci, *All Landfills Leak, and Our Health and Environment Pay the Toxic Price*, CONSERVATION LAND FOUNDATION (July 23, 2018), <https://www.clf.org/blog/all-landfills-leak-and-our-health-and-environment-pay-the-toxic-price/> [<https://perma.cc/2MUZ-N4SN>].

⁵⁸ Kamyar Yaghmaien et al., *Comparative Health Risk Assessment of BTEX Exposures from Landfills, Composting Units, and Leachate Treatment Plants*, 12 AIR QUALITY, ATMOSPHERE & HEALTH 443, 443 (2019).

⁵⁹ Prince O. Njoku et al., *Health and Environmental Risks of Residents Living Close to a Landfill: A Case Study of Thohoyandou Landfill, Limpopo Province, South Africa*, 16 INT’L J. ENV’T RES. PUB. HEALTH 1, 1 (2019).

⁶⁰ R. Maheshwari et al., *Impact of Landfill Waste on Health: An Overview*, 1 J. ENV’T SCI., TOXICOLOGY & FOOD TECH. 17, 17, 19 (2015).

⁶¹ Yunjiang Yu et al., *Effects of Ambient Air Pollution from Municipal Solid Waste Landfill on Children’s Non-specific Immunity and Respiratory Health*, 236 ENV’T POLLUTION 382, 388 (2018); Carlos Roberto Silveira Corrêa et al., *Landfills as Risk Factors for Respiratory Diseases in Children*, 87 JORNAL DE PEDIATRIA 319, 319 (2011).

⁶² Agostino Di Ciaula, *Increased Deaths from Gastric Cancer in Communities Living Close to Waste Landfills*, 26 INT’L J. ENV’T HEALTH RSCH. 1, 5 (2016); Francesca Mataloni et al., *Morbidity and Mortality of People who Live Close to Municipal Waste Landfills: A Multisite Cohort Study*, 45 INT’L J. EPIDEMIOLOGY 806, 806, 807 (2016).

⁶³ Amalia Mattiello et al., *Health Effects Associated with the Disposal of Solid Waste in Landfills and Incinerators in Populations Living in Surrounding Areas: A Systematic Review*, 58 INT’L J. PUB. HEALTH 725, 728, 733 (2013).

⁶⁴ *Id.* at 734.

⁶⁵ *Access to Health Services*, UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS), <https://health.gov/healthypeople/objectives-and-data/social-determinants-health/literature-summaries/access-health-services> [<https://perma.cc/39C3-P38M>] (last visited Apr. 3, 2022).

⁶⁶ Kim Diana Connolly, *Small Town Trash: A Model Comprehensive Solid Waste Ordinance for Rural Areas of the United States*, 53 CATH. UNIV. L. REV. 1, 11 (2003).

B. Regulatory Segmentation of Waste-to-Energy

Landfill gas technology requires major quantities of trash to rest in place over a period of time.⁶⁷ Rules that the EPA drafted in 2016, define waste-to-energy gas not only as renewable, but also as clean.⁶⁸ Rather than prompting waste reduction or diversion, energy sales from landfill gas provide incentives for construction of large landfills, or for landfill expansion.⁶⁹ As one example, the Industrial Power Generating Company (“INGENCO”) seeks to expand in Charles City as Waste Management creates sixteen new landfill cells.⁷⁰ INGENCO is a subsidiary of Castleton Commodities International, with sixteen facility locations in the eastern United States, most of which are in Virginia.⁷¹ INGENCO sells energy directly into the Eastern Interconnection grid, operated by PJM Interconnection (“PJM”), as well as to retail customers.⁷² INGENCO receives remuneration not only for selling energy but also by selling greenhouse gases (“GHG”) offsets to businesses, like CarMax, Volvo, and Vulcan Materials, and Virginia universities.⁷³ While INGENCO’s technology is highlighted in the media as ‘green’ due to the reuse of old diesel engines and the reduction of GHGs from landfills, the energy projects themselves are major sources of pollutants; for example, the INGENCO facility in Charles City uses forty-eight salvaged diesel engines⁷⁴ and is a Title V source for nitrogen oxides (NOx) and carbon monoxide (CO), with significant emissions of sulfur dioxide (SO₂) and Volatile Organic Compounds (“VOCs”).⁷⁵ INGENCO ignores opportunities to reduce emissions with

⁶⁷ *Basic Information about Landfill Gas*, EPA, <https://www.epa.gov/lmop/basic-information-about-landfill-gas> [<https://perma.cc/EA3P-BNHU>] (last visited Apr. 3, 2022).

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *INGENCO Facilities*, INGENCO, <https://www.industrialpowergenerating.com/facilities/> [<https://perma.cc/PXJ4-HF5C>] (last visited Apr. 3, 2022); *Rustburg Landfill Gas (LFG) to Energy Project Agenda Item 6*, REGION 2000 SERVICES AUTHORITY (May 22, 2019), https://www.region2000servicesauthority.org/images/agendas/2021_Mar24/6a_Gas_To_Energy_Summary.pdf [<https://perma.cc/UDH9-EG2P>].

⁷¹ *INGENCO Facilities*, *supra* note 70.

⁷² Haley Rischar, *How Ingenco Repurposes Diesel Engines for LFG-to-Energy Operations*, WASTE TODAY MAGAZINE (Dec. 21, 2021), <https://www.wastetodaymagazine.com/article/ingenco-salvages-diesel-engines-for-waste-to-energy/> [<https://perma.cc/GY2G-UPAR>].

⁷³ *Your options*, INGENCO, <http://ingenco.com/> [<https://perma.cc/GB4T-KGAS>] (last visited Apr. 3, 2022); *Collegiate Clean Energy*, COLLEGIATE CLEAN ENERGY, <https://collegiatecleanenergy.com/> [<https://perma.cc/3UN5-EWZL>] (last visited Apr. 3, 2022).

⁷⁴ Rischar, *supra* note 72.

⁷⁵ *Piedmont Regional Office Intra-Agency Memorandum Engineering Analysis, Draft Permit*

control devices, in spite of location in an area that is approximately fifty-seven to seventy-three percent minority (depending on the precise coordinates within the large landfill site).⁷⁶ DEQ renewed INGENCO's air permit in 2020 in spite of repeated air pollution violations in recent years⁷⁷ and its location in a minority-majority area.⁷⁸

C. *Fossil Gas Hubs and Corridors*

O&G companies lobby to maintain state-level—rather than federal—oversight.⁷⁹ Industry influence over state regulatory and permitting means processes have a large number of externalities (e.g., costs not included in the price of the good or service).⁸⁰ Externalizing costs makes domestic gas appear cheaper than it actually is as a means to outcompete coal.⁸¹ The Natural Gas Act (1938)⁸² and revisions (1954, 1992, 2005)⁸³ advance utility projects defined as domestic and national security necessities by claims to “contribute to the public good,”⁸⁴ a claim made by all

Approval Recommendation, VA. DEP'T ENV'T QUALITY, <https://web.archive.org/web/20211227124823/https://www.deq.virginia.gov/home/showpublisheddocument/12871/637752494542800000> [https://perma.cc/KVY9-UK4K] (last visited Apr. 3, 2022).

⁷⁶ The site is large enough that EJSCREEN demographics of a one-mile radius are different for Waste Management landfill and INGENCO. Waste Management registers as thirty percent African American; thirty percent American Indian; eight percent multiracial and five percent Hispanic. EPA, WASTE MANAGEMENT CHARLES CITY LANDFILL ENFORCEMENT AND COMPLIANCE HISTORY ONLINE (ECHO) REPORT, <https://echo.epa.gov/detailed-facility-report?fid=110020682037> [https://perma.cc/C2F5-B749] (last visited Apr. 3, 2022). This area has higher poverty than state averages and the percentage over the age of sixty-four and percentage with less than a high school education are also elevated. *Id.* The INGENCO site, which is located within the perimeter of the landfill on the north side, registers as twenty-eight percent African American; eighteen percent American Indian; six percent multiracial, four percent Hispanic, and one percent Asian. EPA, INGENCO ENFORCEMENT AND COMPLIANCE HISTORY ONLINE (ECHO) REPORT [hereinafter INGENCO ENFORCEMENT AND COMPLIANCE], <https://echo.epa.gov/detailed-facility-report?fid=110012144526> [https://perma.cc/4C9C-GM23] (last visited Apr. 3, 2022).

⁷⁷ INGENCO ENFORCEMENT AND COMPLIANCE, *supra* note 76.

⁷⁸ *Id.*

⁷⁹ Lisa A. Cumming, *The Feud Is Getting Old: Why the Oil and Gas Industry Should Lobby for the Federal Regulation of Hydraulic Fracturing under the Safe Drinking Water Act*, 125 PENN ST. L. REV. 905, 922–23 (2020).

⁸⁰ Hannah J. Wiseman, *Taxing Local Energy Externalities*, 96 NOTRE DAME L. REV. 563, 568, 570 (2020).

⁸¹ *Id.* at 567, 573.

⁸² Natural Gas Act of 1938, 52 Stat. 821 (1938).

⁸³ 15 U.S.C. § 15(B).

⁸⁴ *See, e.g.*, Press Release, The White House, Fact Sheet: The Bipartisan Infrastructure

infrastructure projects. Motivated by return on investment (“ROI”) for shareholders, projects do not attempt to deliver lower cost energy, or intend to serve rural communities through which pipelines pass. Developers justify interstate gas transmission lines by claiming they are necessary for reliability on each state’s utility grid, but they do not create connections in rural areas with some of the least reliable energy with the highest energy burden.⁸⁵ Local utility distribution pipelines cost millions of dollars, and without collaboration from the developers of these large systems, few localities are able to provide access to residents.⁸⁶ Instead, many interstate pipelines target industrial hubs; in Virginia this includes naval yards, and soon marine liquified natural gas (“LNG”) facilities—for global markets.⁸⁷

Industry representatives inflate potential positive outcomes in their public relations information, including the number of local workers to be hired, and the allure of readily available gas from new transmission pipelines to attract new businesses to the area.⁸⁸ This disinformation contradicts the actual hiring practices for which most highly technical staff are not available in the local community and actual market trends, as businesses are seeking lower-cost renewables instead.⁸⁹ Energy companies and chambers of commerce tout gas as clean energy, although such claims

Deal (Nov. 6, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/> [<https://perma.cc/T3VL-3N59>].

⁸⁵ Lori Aniti, *Utilities Continue to Increase Spending on Transmission Infrastructure* (Feb. 9, 2018), U.S. ENERGY INFORMATION ADMINISTRATION, <https://www.eia.gov/todayinenergy/detail.php?id=34892> [<https://perma.cc/ZQ3D-RKXS>]. Energy burden generally considers a household’s cost of electricity as compared to their income; the higher price per kilowatt hour and low wages common in rural areas intensify the energy burden of rural households. Felix F. Barikor, *Studies of the Influence of the Oil and Gas Industries on the American Energy Policy Act of 2005*, 3 S. ASIAN RSCH. J. HUMAN. SOC. SCI. 47, 48 (2021).

⁸⁶ Paul S. Ciccantell, *Liquefied Natural Gas: Redefining Nature, Restructuring Geopolitics, Returning to the Periphery?*, 79 AM. J. ECON. SOCIO. 265, 270 (2020).

⁸⁷ *Id.* at 277.

⁸⁸ *Id.* at 266–67; Sue Sturgis, *Would the Atlantic Coast Pipeline Be the Job Creator Its TV Ads Claim?*, FACING SOUTH (Dec. 15, 2017), <https://www.facingsouth.org/2017/12/would-atlantic-coast-pipeline-be-job-creator-its-tv-ads-claim> [<https://perma.cc/MCM4-HEG5>].

⁸⁹ Sturgis, *supra* note 88. Alleged job numbers for O&G projects commonly duplicate existing positions while implying job creation. Ciccantell, *supra* note 86, at 269–70, 285, 287. It is standard to exaggerate by blurring counts of temporary and permanent positions, for example. Outside crews who temporarily construct a project in Virginia for a few months do not add “new” jobs. *Id.* Likewise, companies aggregate hourly data for full-time employees (“fte”) to count existing administration, marketing, and consultancy positions. See, e.g., U.S. BUREAU OF LABOR, *Bureau of Labor Statistics: Oil and Gas Extraction: NAICS 211*, <https://www.bls.gov/iag/tgs/iag211.htm> [<https://perma.cc/7UD2-SXAZ>] (last visited Apr. 3, 2022). They also count each job as a new job in each year of construction. Ciccantell, *supra* note 86, at 287.

do not hold up to scrutiny.⁹⁰ Legal fallacies in National Environmental Policy Act (“NEPA”) arguments include: (1) failure to account for a project’s downstream and upstream GHG emissions; (2) failure to acknowledge a project’s effect on the country’s energy mix; and (3) failure to consider a reasonable social cost of carbon.⁹¹

For decades, impacted communities have worked with independent scientists to sound the alarm about environmental and public health threats from gas processing and transmission.⁹² Air pollution from compressor stations, metering and regulation facilities, and gas plants include⁹³: nitrous oxides (NO_x), sulphur dioxide (SO₂), fine particulate matter (PM), BTEX compounds, formaldehyde, ammonia, VOC,⁹⁴ and precursors to ground-level ozone.⁹⁵ Proximity of a household’s residence appears correlated with prevalence and severity of negative health symptoms.⁹⁶

⁹⁰ Stephen J. Scanlan, *Framing Fracking: Scale-Shifting and Greenwashing Risk in the Oil and Gas Industry*, 22 LOC. ENV’T 1311, 1312 (2017).

⁹¹ Jayni F. Hein & Natalie Jacewicz, *Implementing NEPA in the Age of Climate Change*, 10 MICH. J. ENV’T & ADMIN. L. 1, 5–6 (2020).

⁹² CONCERNED SCIENTISTS OF NEW YORK AND PHYSICIANS FOR SOCIAL RESPONSIBILITY, COMPENDIUM OF SCIENTIFIC, MEDICAL, AND MEDIA FINDINGS DEMONSTRATING RISKS AND HARMS OF FRACKING (UNCONVENTIONAL GAS AND OIL EXTRACTION) 1, 7 (7th ed. Dec. 2020) [hereinafter FINDINGS DEMONSTRATING RISKS AND HARMS OF FRACKING], https://secure.servercdn.net/166.62.108.229/ejr.4eb.myftpupload.com/wp-content/uploads/2021/02/CHPNY-PSR-Fracking-Science-Compendium-7_20210219.pdf [<https://perma.cc/CFL2-GCTV>]; PASQUALE N. RUSSO & DAVID O. CARPENTER, HEALTH EFFECTS ASSOCIATED WITH STACK CHEMICAL EMISSIONS FROM NYS NATURAL GAS COMPRESSOR STATIONS: 2008–2014 1, 4 (2017), https://sape2016.files.wordpress.com/2018/02/compressor-report-health_effects_associated_with_stack_chemical_emissions_from_nys_natural_gas_compressor_stations_2008_2014.pdf [<https://perma.cc/R73N-XY7T>]; Pasquale N. Russo & Carpenter, *Air Emissions from Natural Gas Facilities in New York State*, 16 INT’L J. ENV’T RSCH. & PUB. HEALTH 1591, 1597 (2019).

⁹³ Research on 353 chemicals used during gas operations found seventy-five percent could affect the skin, sensory organs, and respiratory and gastrointestinal systems; Forty to fifty percent could affect the nervous, immune, and cardiovascular systems; thirty-seven percent could affect the endocrine system; and twenty-five percent could cause cancer and mutations. See Theo Colborn et al., *Natural Gas Operations from a Public Health Perspective*, 17 HUM. & ECOLOGICAL RISK ASSESSMENT: AN INT’L J. 1039, 1042 (2011); Theo Colborn et al., *An Exploratory Study of Air Quality Near Natural Gas Operations*, 20 HUM. & ECOLOGICAL RISK ASSESSMENT: AN INT’L J. 86, 11 (2012).

⁹⁴ Michael Hendryx & Juhan Luo, *Natural Gas Pipeline Compressor Stations: VOC Emissions and Mortality Rates*, 7 EXTRACTIVE INDUS. & SOC’Y 864, 864 (2020).

⁹⁵ Bryce F. Payne Jr. et al., *Characterization of Methane Plumes Downwind of Natural Gas Compressor Stations in Pennsylvania and New York*, 580 SCI. TOTAL ENV’T 1214, 1215, 1219 (2016).

⁹⁶ Jennifer A. Burney, *The Downstream Air Pollution Impacts of the Transition from Coal to Natural Gas in the United States*, 3 NATURE SUSTAINABILITY 152, 155 (2020).

Touted as cleaner than coal, rapid gas infrastructure expansion occurred over fifteen years with most new gas from hydraulic fracturing (“fracking”) that uses dozens of undisclosed toxic chemicals and hundreds of thousands of gallons of groundwater.⁹⁷ State agencies are poorly prepared: narrowly trained and inadequately resourced civil servants struggle to stay abreast of scientific knowledge about fossil gas health impacts at infrastructure hotspots like drill pads, CSs, and LNG facilities.⁹⁸ Midstream transmission’s public health harms can be significant,⁹⁹ and climate impacts are on par with coal.¹⁰⁰ GHGs are often measured in carbon dioxide equivalent (CO₂e), but the differences between carbon and methane are important. Methane emissions from agriculture, landfills, coal fields and gas operations create rapid atmospheric transition.¹⁰¹ The potency of emissions is higher when shorter time frames are considered. Methane, a gas whose emissions are not presently regulated, escapes throughout production, use, and transport of fossil gas.¹⁰² Research suggests EPA estimates of methane from O&G supply chains are sixty percent lower than what actually occurs.¹⁰³ A lack of measurement of actual emissions alongside the reliance on voluntary mitigation props up industry and

⁹⁷ ADAM VANN ET AL., HYDRAULIC FRACTURING: SELECTED LEGAL ISSUES, CONG. RSCH. SERV. 1 (Sept. 2014), <https://sgp.fas.org/crs/misc/R43152.pdf> [<https://perma.cc/A3PG-XETH>].

⁹⁸ FINDINGS DEMONSTRATING RISKS AND HARMS OF FRACKING, *supra* note 92, at 187–89.

⁹⁹ Kirsten Koehler et al., *Exposure Assessment Using Secondary Data Sources in Unconventional Natural Gas Development and Health Studies*, 52 ENV'T SCI. & TECH. 6061, 6064 (2018).

¹⁰⁰ Robert W. Howarth, *Methane Emissions from Fossil Fuels: Exploring Recent Changes in Greenhouse-Gas Reporting Requirements for the State of New York*, J. INTEGRATIVE ENV'T SCI. 1, 76 (2020).

¹⁰¹ In terms of climate forcing, methane emissions have eighty-six times the potency of carbon dioxide averaged over the first twenty years and thirty-five times potency across 100 years. Pep Canadell et al., *Emissions of Methane—a Greenhouse Gas Far More Potent than Carbon Dioxide—Are Rising Dangerously*, THE CONVERSATION (July 14, 2020), <https://theconversation.com/emissions-of-methane-a-greenhouse-gas-far-more-potent-than-carbon-dioxide-are-rising-dangerously-142522> [<https://perma.cc/B4AT-5K68>]. Methane is more potent when methane and carbon dioxide coexist in the atmosphere. CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS, INTERGOVERNMENTAL PANEL CLIMATE CHANGE (IPCC), 1, 11 (2013), <https://www.ipcc.ch/report/ar5/wg1/> [<https://perma.cc/J7K6-5GAD>].

¹⁰² UNITED NATIONS ECON. COMM'N EUROPE, *UNECE Gas Experts Discuss Methane Emissions* (Mar. 23, 2017), <https://unece.org/sustainable-energy/news/unece-gas-experts-discuss-methane-emissions#:~:text=On%2027%20and%2028%20March%2C%20the%20UNECE%20Group,can%20be%20monitored%2C%20measured%2C%20reported%20and%20ultimately%20reduced> [<https://perma.cc/NS2Y-D9NK>].

¹⁰³ Ramon A. Alvarez et al., *Assessment of Methane Emissions from the US Oil and Gas Supply Chain*, 361 SCI. 186, 187 (2018).

regulatory denialism, even though the chemical signature of anthropogenic methane emissions exposes U.S. fossil gas sources.¹⁰⁴

Many times, state agencies led by political appointees lack the autonomy and budgets necessary to document the risks and harms of fossil fuel projects.¹⁰⁵ Analyses of interstate pipeline enforcement found that interstate pipelines have caught fire or exploded 137 times between 2010 and 2018.¹⁰⁶ In ninety percent of those disasters, no fines were levied by the Pipeline and Hazardous Materials Safety Administration (“PHMSA”).¹⁰⁷ The United States has approximately 4,500 miles of gathering lines without consistent records on incidents in rural areas.¹⁰⁸ Rural gathering lines don’t have to be marked, built to standards or regularly inspected; and operators don’t have to maintain emergency response plans for when they leak or explode.¹⁰⁹

Local and tribal governments often remain unprepared for hazards from pipelines. For example, Colonial Pipeline crosses much of the state of Virginia carrying petroleum products, with extensive sections in Charles City and Buckingham Counties.¹¹⁰ Originally built in 1964, although parts of the system are older, the system is leaky, poorly maintained and inadequately monitored, and yet Colonial is allowed to influence national

¹⁰⁴ Howarth, *supra* note 100, at 70, 73, 75, 77.

¹⁰⁵ For example, DEQ ignored recommendations from the EPA when granting MVP’s water permit. See Mike Tony, *EPA Recommends not Issuing Key Water Permit for Mountain Valley Pipeline which Touts Carbon Offset*, CHARLESTON GAZETTE-MAIL (July 12, 2021), https://www.wvgazettemail.com/news/energy_and_environment/epa-recommends-not-issuing-key-water-permit-for-mountain-valley-pipeline-which-touts-carbon-offset/article_a075bf52-66b3-529d-800e-8248e9ebec20.html [<https://perma.cc/XX9T-NNXJ>].

¹⁰⁶ Mike Soraghan, *No Penalties for 90% of Pipeline Blasts*, E&E NEWS (Nov. 15, 2018, 7:02 AM), <https://www.eenews.net/articles/no-penalties-for-90-of-pipeline-blasts/> [<https://perma.cc/TCP5-DM8G>].

¹⁰⁷ *Id.*

¹⁰⁸ Mike Lee & Mike Soraghan, *Deadly Pipelines, No Rules*, E&E NEWS (Mar. 4, 2019, 7:19 AM), <https://www.eenews.net/articles/deadly-pipelines-no-rules/> [<https://perma.cc/HH7Q-ZM23>].

¹⁰⁹ The state government assisted the Chickahominy Tribe to plan for hazards; energy infrastructure like Colonial Pipeline was assessed as a security asset more than as a fire or leak hazard. CHICKAHOMINY TRIBE, CHICKAHOMINY INDIAN TRIBE MULTI-HAZARD MITIGATION PLAN 53 (2021), <https://www.chickahominytribe.org/wp-content/uploads/2021/09/Chickahominy-Indian-Tribe-Multi-Hazard-Mitigation-Plan-2021-Draft-.pdf> [<https://perma.cc/WV9J-SYFM>].

¹¹⁰ Sarah Vogelsong, *Proposed Chickahominy Pipeline Map Released; County Officials Complain About Lack of Information*, VA. MERCURY (Sept. 24, 2021, 12:01 AM), <https://www.virginiamercury.com/2021/09/24/proposed-chickahominy-pipeline-map-released-county-officials-complain-about-lack-of-information/> [<https://perma.cc/A8ZN-Y4QN>].

limits and standards despite a terrible record,¹¹¹ including a recent spill in Hunterville, North Carolina, where 1.25 million gallons escaped, making it one of the largest U.S. spills on land.¹¹² Colonial is currently being sued by the state for not providing data and not remediating.¹¹³ Colonial also did little to prevent the damage, which was caused by corrosion in a Type-A collar repair, which exists through the Colonial system without sufficient assessment to remove or replace them if needed.¹¹⁴ After an earlier spill, PHMSA chastised the company, stating “colonial’s inability to effectively detect and respond to such releases has potentially exacerbated the impacts of numerous releases over the operational history of Colonial’s entire pipeline system.”¹¹⁵ O&G pipelines and infrastructure remain a profitable corporate investment even when states sue for damages. The largest shareholder of Colonial Pipeline is Koch Industries, known for bankrolling projects and theorists of white supremacy¹¹⁶ and climate denialism.¹¹⁷ Notably, Colonial paid a \$4.4 million ransom to

¹¹¹ John Harold Rees, *Colonial Pipeline v. Brown: Georgia Constructs a State Constitutional Limit on Punitive Damages*, 12 AM. J. TRIAL ADVOC. 511, 519 (1988); Arthur B. Smith Jr., *Colonial Pipeline Enoree River Oil Spill: A Case History*, INT’L OIL SPILL CONF. PROC. 165–68 (1993).

¹¹² Press Release, N.C. Dep’t Env’t Quality, DEQ files Action Against Colonial Pipeline for Largest Gasoline Spill in State’s History (Nov. 2, 2021), <https://deq.nc.gov/news/press-releases/2021/11/02/deq-files-action-against-colonial-pipeline-largest-gasoline-spill-states-history> [<https://perma.cc/NL4J-YM96>].

¹¹³ North Carolina DEQ wants Colonial Pipeline to submit a corrective action plan, to disclose information about leak detection systems, and to remove and treat chemicals that contaminate groundwater. Letter from N.C. Dep’t Env’t Quality, Notice of Regulatory Requirements: Risk-based Assessment and Corrective Action for Petroleum Aboveground Storage Tanks and Other Petroleum Sources, to Colonial Pipeline Company (Aug. 20, 2020). Those include per- and poly-fluoroalkyl substances (“PFAS”), a group of industrial chemicals found in sampling at the site. Response Letter from Colonial Pipeline Company, Notice of Regulatory Requirements, to N.C. Dep’t Env’t Quality (Oct. 27, 2021). DEQ also wants Colonial Pipeline to carry out monthly sampling of nearby surface water for gasoline, pH, volatile organic compounds, lead and PFAS. *Id.*

¹¹⁴ Complaint & Motion for Preliminary Injunction & Permanent Injunctive Relief, at 12, N.C. *ex rel.*, N.C. Dep’t Env’t Quality v. Colonial Pipeline Co., 21-cvs-562 (N.C. Super. Ct. 2021).

¹¹⁵ Gerson Freitas et al., *Colonial Pipeline Has Been a Lucrative Cash Cow for Many Years*, BLOOMBERG (May 14, 2021, 6:00 AM), <https://www.bloomberg.com/news/articles/2021-05-14/colonial-pipeline-has-been-a-lucrative-cash-cow-for-many-years> [<https://perma.cc/23VF-DPPT>].

¹¹⁶ Jasmine Banks, *The Radical Capitalist Behind the Critical Race Theory Furor*, THE NATION (Aug. 13, 2021), <https://www.thenation.com/article/politics/charles-koch-crt-backlash/> [<https://perma.cc/Y7DS-JHJH>].

¹¹⁷ Nino Rusidze, *Super PACs and Climate Change Denial*, 3 CORVINUS J. INT’L AFFAIRS 27, 32–33 (2018).

hackers in 2021 to prevent having to pay even higher sums to customers during a breach of their system.¹¹⁸

D. Metal Mining Belts

Most recognized gold and copper mining belts are located in the global South,¹¹⁹ yet gold commodity frontiers are ‘widening’ (e.g., geographical expansion) and ‘deepening’ (e.g., sociotechnical innovation).¹²⁰ These jobs are moderately skilled but relatively low in number and large-scale commercial gold mining relies on the use of machinery.¹²¹ Recent proposals for U.S. mining include¹²² new extraction in the “Virginia Gold-Pyrite Belt.”¹²³ A Buckingham Gold Rush,¹²⁴ preceding the California and Yukon ones, was located on the gold vein, once the richest in the United States, where in 1832, the first commercial gold mine (i.e., shaft mining) was established at Bernard Gaine Booker’s Plantation.¹²⁵

Recent exploratory tests found high-grade, near-surface gold still in this Buckingham Vein.¹²⁶ The scale of the open pit gold mining proposed

¹¹⁸ Collin Eaton & Dustin Volz, *Colonial Pipeline CEO Tells Why He Paid Hackers a \$4.4 Million Ransom*, WALL ST. J. (May 19, 2021, 4:51 PM), <https://www.wsj.com/articles/colonial-pipeline-ceo-tells-why-he-paid-hackers-a-4-4-million-ransom-11621435636> [https://perma.cc/2P96-BFLW]. Colonial Pipeline’s decisions have national implications; for example, see Tsvetan Tsvetanov & Srishti Slaria, *The Effect of the Colonial Pipeline Shutdown on Gasoline Prices*, 209 ECON. LETTERS 110122, at 4 (2021).

¹¹⁹ See Samwel Kola et al., *Levels of Mercury in Nile tilapia (Oreochromis niloticus), Water, and Sediment in the Migori Gold Mining Belt, Kenya, and the Potential Ramifications to Human Health*, 8 F1000RESEARCH 1244, 1246–47 (2019); Thomas K. Rudel, *The Extractive Imperative in Populous Indigenous Territories: The Shuar, Copper Mining, and Environmental Injustices in the Ecuadorian Amazon*, 46 HUM. ECOLOGY 727, 731, 733 (2018).

¹²⁰ Boris Verbrugge & Sara Geenen, *The Gold Commodity Frontier: A Fresh Perspective on Change and Diversity in the Global Gold Mining Economy*, 6 EXTRACTIVE INDUS. & SOC’Y 413, 414 (2019).

¹²¹ Boris Verbrugge & Sara Geenen, *Introduction: Snapshots of Global Gold Mining*, in GLOBAL GOLD PRODUCTION TOUCHING GROUND 1, 2 (Palgrave Macmillan 2020).

¹²² Aston also works in Nunavut, a semi-autonomous Indigenous territory. Canadian mining companies generally target the global South, where environmental and worker protections are inadequate. *Nunavut Overview*, ASTON BAY, <https://astonbayholdings.com/projects/nunavut-property/nunavut-overview/> [https://perma.cc/M9BY-X2B5] (last visited Apr. 3, 2022).

¹²³ *Virginia Gold Belt*, ASTON BAY, <https://astonbayholdings.com/projects/virginia-usa/virginia-gold-belt/> [https://perma.cc/Y5AY-CDXY] (last visited Apr. 3, 2022).

¹²⁴ *Abandoned Mineral Mine Lands*, VIRGINIA ENERGY, <https://energy.virginia.gov/mineral-mining/AMML.shtml> [https://perma.cc/5Q3G-5BP6] (last visited Apr. 3, 2022).

¹²⁵ Joanne Yeck, *Buckingham Gold*, SLATE RIVER RAMBLINGS (Jan. 4, 2013), <https://slateriverramblings.com/2013/01/04/buckingham-gold/> [https://perma.cc/BTD4-528T].

¹²⁶ *Virginia Overview*, ASTON BAY, <https://astonbayholdings.com/projects/virginia-usa/virginia-overview/> [https://perma.cc/2RFU-ESQ8] (last visited Apr. 3, 2022).

for Buckingham creates local concern given the destructive harms of other modern precedents.¹²⁷ Other forms of mineral extraction such as copper, zinc, and lead are rare in the United States although also extending in central Virginia including Pittsylvania County, while Charles City County experiences ever evolving forms of extraction, including sand and gravel mining.¹²⁸ There are also patterns of depositions, including experimental applications of biosolids.¹²⁹ Out-of-state dredge materials have been deposited in gravel pits and wetlands in rural parts of Virginia.¹³⁰

E. Industrial Megabits and Corridors

Infrastructure driven businesses dominate current development efforts in Virginia: basic planning logic recommends clustering rural infrastructure to obtain efficiencies with energy supply, water supply, waste removal, and other services. The concentration of industry in certain zones could keep other areas cleaner and safer, but ignores risks for proximate populations experiencing cumulative harm from emissions, or synergies between hazards,¹³¹ as cumulative environmental exposures are common in concentrated hubs and corridors.¹³²

¹²⁷ Legacy arsenic pollution remains in the shared aquifer providing the 100% single source of drinking water in the well water of most Buckingham County residents. *Monthly Meeting*, BUCKINGHAM COUNTY BOARD OF SUPERVISORS (Jan. 11, 2021), https://cms9files.revize.com/buckinghamcounty/Document_Center/Agenda%20&%20Minutes/Board%20Of%20Supervisors/2021/Minutes/January%2011,%202021%20BOS.pdf [https://perma.cc/7BJF-VLGJ].

¹²⁸ Sabrina Shuttters, 'It's Devastating': Charles City County Residents Up in Arms over Proposed Mining Operation, WRIC ABC 8 NEWS (Nov. 10, 2021, 5:37 PM), <https://www.wric.com/news/local-news/its-devastating-charles-city-county-residents-up-in-arms-over-proposed-mining-operation/> [https://perma.cc/D3GR-ZB9S].

¹²⁹ Eton E. Codling et al., *Residual Effects of Long-term Biosolids Application on Concentrations of Carbon, Cadmium, Copper, Lead and Zinc in Soils from Two Regions of the United States*, 52 COMM'N SOIL SCI. & PLANT ANALYSIS 896, 902–03 (2021).

¹³⁰ Emily T. Ott et al., *Effects of Amendments and Microtopography on Created Tidal Freshwater Wetland Soil Morphology and Carbon*, 84 SOIL SCI. SOC'Y AM. J. 638, 640, 650–51 (2020); W. L. Daniels et al., *Effects of Soil Amendments and Other Practices Upon the Success of the Virginia Department of Transportation's Non-Tidal Wetland Mitigation Efforts*, VA. TRANSP. RSCH. COUNCIL 1, 2, 26, 35 (2005).

¹³¹ Josef Navrátil et al., *Variation in Brownfield Reuse of Derelict Agricultural Premises in Diverse Rural Spaces*, 87 J. RURAL STUD. 124, 133–34 (2021).

¹³² Margaret A. Reams & Jennifer K. Irvine, *Applying Community Resilience Theory to Engagement with Residents Facing Cumulative Environmental Exposure Risks: Lessons from Louisiana's Industrial Corridor*, 34 REV. ENV'T HEALTH 235, 236 (2019).

Rural megabits receive government stimulus money and preferential treatment.¹³³ These planned sites often focus on redevelopment of contaminated brownfields¹³⁴ or economic re-revitalization following market shifts.¹³⁵ In Virginia, rural funds target sites of historic unsustainable coal and tobacco production.¹³⁶ Megabits like these often privilege large industries and facilitate outside corporations maximizing investments without learning the area.¹³⁷ There are avenues for adaptive reuse of historical or industrial sites,¹³⁸ after removing or containing legacy contamination.¹³⁹ Local and state agencies currently use the location of existing projects, such as Transco's gas lines,¹⁴⁰ to determine their agendas, regardless of community impacts, social costs, or lost opportunities to invest in more equitable, ecologically sound small and medium businesses.¹⁴¹

¹³³ Arno Rein et al., *Comparison of Approaches for the Characterization of Contamination at Rural Megabits*, 63 ENV'T EARTH SCI. 1239, 1240–41 (2011).

¹³⁴ Maria G. Andrisani, *Relative Risk Assessment in Support of the Management of Potentially Contaminated Megabits*, 30 RENDICONTI LINCEI SCIENZE FISICHE E NATURALI 389, 389, 391, 397 (2019).

¹³⁵ Rudi Colloredo Mansfeld, *The Anthropology of Economic Regeneration*, 6 ECON. ANTHROPOLOGY 147, 148 (2019).

¹³⁶ *Certified Sites*, VIRGINIA ECONOMIC DEVELOPMENT PARTNERSHIP, <https://www.vedp.org/certified-sites> [<https://perma.cc/J26U-PSAN>] (last visited Apr. 3, 2022).

¹³⁷ Adaptive reuse projects have the potential to reinvigorate struggling rural economies while also building local communities. Waste products from one facility (e.g., steam, heat, organic matter, grey water) can become inputs in another, highlighting the efficient and adaptable nature of industrial symbiosis. Michael Martin, *Industrial Symbiosis Networks: Application of the Circular Economy for Resource Efficiency*, in Miguel Brandão et al., HANDBOOK OF THE CIRCULAR ECONOMY 50, 50–51 (Edward Elgar Publishing 2020); Angela Neves et al., *Industrial Symbiosis Initiatives in United States of America and Canada: Current Status and Challenges* 2019, 8TH INTERNATIONAL CONFERENCE ON INDUSTRIAL TECHNOLOGY AND MANAGEMENT 247, 247 (2019).

¹³⁸ Nicholas Lynch, *Remaking the Obsolete: Critical Geographies of Contemporary Adaptive Reuse*, 16 GEOGRAPHY COMPASS 1, 2 (2021).

¹³⁹ See, e.g., EPA, SITES IN REUSE: CASCADE PARK GASIFICATION PLANT SUPERFUND SITE, EPA REGION 4 FACT SHEETS 1, 2 (Oct. 2009), https://nssdc.gsfc.nasa.gov/planetary/lunar/moon_trees/cascadegas_reuse_fl.pdf [<https://perma.cc/M8S8-6XLW>].

¹⁴⁰ Virginia is dependent on fossil fuels originating from outside the state; Transco delivers approximately half the gas entering the Commonwealth. *Commonwealth Energy Connector*, WILLIAMS, <https://www.williams.com/expansion-project/commonwealth-energy-connector/> [<https://perma.cc/4JMV-JP56>] (last visited Apr. 3, 2022); see also Dyna Mariel Bade, *Transco Asks Court to Deny Mountain Valley Pipe Expansion Easement Request*, S&P GLOBAL COMMUNITY INSIGHTS (Mar. 17, 2021, 8:02 PM), <https://www.spglobal.com/commodity-insights/en/market-insights/latest-news/natural-gas/031721-transco-asks-court-to-deny-mountain-valley-pipe-expansion-easement-request> [<https://perma.cc/3VF9-3YBR>].

¹⁴¹ NGI Staff Reports, *FERC Oks Transco Mainline Expansion in Virginia, North Carolina*, NATURAL GAS INTEL. (Nov. 22, 2013), <https://www.naturalgasintel.com/ferc-oks-transco-mainline-expansion-in-virginia-north-carolina/> [<https://perma.cc/C4FM-NJC3>].

Rural planners could focus on people-centered strategies, where care is taken to protect the most marginalized groups, rather than the current mode of infrastructure-led mega-development.¹⁴²

F. *Spatial Planning and Pollution*

Sacrifice zones related to unconventional gas extraction¹⁴³ and petrochemical infrastructure are clustered in Appalachia,¹⁴⁴ often in communities formerly burdened by coal extraction and its adverse environmental and health impacts.¹⁴⁵ There is a continuum of harm as multiple toxic pollution source sites connect across high impact hubs and corridors.¹⁴⁶ Urban and rural pollution clusters are parts of the same system: one portion would not exist without the other. Companies route pipeline infrastructure to avoid powerful political or economic forces and resistance.¹⁴⁷ These then become the cheapest geographies to seize private property by eminent domain,¹⁴⁸ or to cross public land with continuous lack of regard for current or past land use, for public and private recreation, and for the preservation of agricultural and heritage lands.¹⁴⁹

The slow violence of deeply rooted predatory methods of profit-making behavior ensures negative outcomes fall on marginalized groups

¹⁴² Seth Schindler & J. Miguel Kanai, *Getting the Territory Right: Infrastructure-Led Development and the Re-emergence of Spatial Planning Strategies*, 55 REG'L STUD. 40, 40–41 (2021).

¹⁴³ Ryan Holifield & Mick Day, *A Framework for a Critical Physical Geography of 'Sacrifice Zones': Physical Landscapes and Discursive Spaces of Frac Sand Mining in Western Wisconsin*, 85 GEOFORUM 269, 271 (2017); JULIE K. MALDONADO, *SEEKING JUSTICE IN AN ENERGY SACRIFICE ZONE: STANDING ON VANISHING LAND IN COASTAL LOUISIANA* 2, 18 (Routledge 2018).

¹⁴⁴ Martina A. Caretta et al., *From a Rural Idyll to an Industrial Site: An Analysis of Hydraulic Fracturing Energy Sprawl in Central Appalachia*, 16 J. LAND USE SCI. 382, 383 (2021).

¹⁴⁵ ANOTHER PETROCHEMICAL SACRIFICE ZONE, FOOD & WATER WATCH (Sept. 2018), https://foodandwaterwatch.org/wp-content/uploads/2021/03/fs_1809_appalachian_gasclusters-uweb.pdf [<https://perma.cc/2R2R-RV4P>].

¹⁴⁶ Ned Randolph, *Pipeline Logic and Culpability: Establishing a Continuum of Harm for Sacrifice Zones*, 9 FRONTIERS ENV'T SCI. 1, 2, 4, 6 (2021).

¹⁴⁷ Alejandra Borunda, *Where Are the U.S.'s Natural Gas Pipelines? Often in Vulnerable Communities.*, NAT'L GEOGRAPHIC (June 24, 2021), <https://www.nationalgeographic.com/environment/article/where-are-the-us-natural-gas-pipelines-often-in-vulnerable-communities/> [<https://perma.cc/3QDG-HRG9>].

¹⁴⁸ James W. Coleman & Alexandra B. Klass, *Energy and Eminent Domain*, 104 MINN. L. REV. 659, 661–62 (2019).

¹⁴⁹ Borunda, *supra* note 147.

(e.g., People of Color, low-wealth households) and their communities.¹⁵⁰ Closed spaces do not need to remain so¹⁵¹: claimed and created spaces exist in dynamic relationships.

Figure 1: Political Spaces¹⁵²

Type of space	Brief description	Examples
<i>Closed</i>	Decisions by a set of actors behind closed doors	-Draft permit -Executive order -Court ruling
<i>Invited</i>	Transient; must be held open	-Written comment periods -Permit hearings; limited times available for public comment
<i>Claimed/ Created</i>	When like-minded people come together in common pursuits	-Yellow Finch blockade ¹⁵³ -Green Job Workcenter -Barnetts Learning and Conceptual Complex (“BLACC”)

Opening political spaces is hard to achieve, although see discussion of claimed and created spaces in Part IV.¹⁵⁴ Otherwise, front line populations have to maneuver quickly in brief invited spaces in the regulatory system. For example, after an applicant has been working with regulators for months or years and has been granted a draft permit, impacted households with the most to lose are then informed that a process has been

¹⁵⁰ MARY FINLEY-BROOK & STEPHEN METTS, CLIMATE CRISIS, ENERGY VIOLENCE: MAPPING ENERGY’S ENDURING GRASP ON A VULNERABLE FUTURE (Elsevier, forthcoming Nov. 2022).

¹⁵¹ See Figure 1.

¹⁵² CITIZEN PARTICIPATION TEAM, CIVIC UPDATE: A MATTER OF POLITICAL SPACE, NAT’L DEMOCRATIC INST. 3 (Apr. 2016), <https://www.ndi.org/sites/default/files/Issue%2050%20A%20Matter%20of%20Political%20Space.pdf> [https://perma.cc/UP54-9X7V].

¹⁵³ Mike Ludwig, *Appalachian Pipeline Blockade Ends With Arrests After 932 Days*, TRUTHOUT (Apr. 2, 2021), <https://truthout.org/audio/yellow-finch-blockade-of-mountain-valley-pipeline-ends-after-932-days/> [https://perma.cc/AA5D-JABL]; Mason Adams, *How a “Bunch of Badass Queer Anarchists” Are Teaming Up With Locals to Block a Pipeline Through Appalachia*, MOTHERJONES (May 25, 2020), <https://www.motherjones.com/politics/2020/05/yellow-finch-mountain-valley-pipeline-appalachia/> [https://perma.cc/9MJY-6H4K].

¹⁵⁴ See discussion *infra* Part IV.

underway.¹⁵⁵ Site location and other major decisions have largely been made by that time; at which point, the ability to influence the outcome is quite small.¹⁵⁶

Recently, landowners have contested the pipeline industry's authority to exercise eminent domain, which has developed into an unresolved circuit split.¹⁵⁷ For permits approved in agencies like the Federal Energy Regulatory Commission ("FERC") there is no 'level' playing field: formal processes are hard for landowners and affected communities to influence and remain only partially transparent—hidden and invisible power is pernicious.¹⁵⁸ Utility regulatory processes have a general structure that makes sense to those deeply involved in the issues.¹⁵⁹ However, when landowners and communities are presented with the need to become involved, they tend to not have even basic understanding of how the processes work, nor the actions required to protect their rights to fully participate in and influence the processes.¹⁶⁰ For example, utility regulatory processes typically require that affected parties declare their interest—to become 'interveners'—during a short time frame at the beginning of regulatory processes.¹⁶¹ This works to the benefit of those who know the system, and know about the project in advance; affected landowners and communities are often yet to be identified when the time has elapsed, and the process often prevents them from joining after deadlines have passed.¹⁶²

The bias toward gas infrastructure approval found in state agencies exhibits consensual powers—meaning they have the leverage to get people to do what they would not otherwise do, even if it is against their

¹⁵⁵ See Adams, *supra* note 153.

¹⁵⁶ See *id.*

¹⁵⁷ Several circuits hold that pipeline companies have the substantive right to immediate entry and are entitled to a preliminary injunction before a trial on just compensation. *Mountain Valley Pipeline, LLC v. 6.56 Acres of Land*, 915 F.3d 197, 205 (4th Cir. 2019). The Seventh Circuit holds that the courts do not have the authority to grant immediate entry, and the pipeline company must complete the entire standard condemnation process before entering the property. Attempts to bring this issue before the Supreme Court have failed. Karen E. Alday, *Givens v. Mountain Valley Pipeline, LLC and the Unresolved Circuit Split*, 7 TEX. A&M J. PROP. L. 137, 151–53 (2021).

¹⁵⁸ See Statement, Federal Energy Regulatory Commission, Commissioner Cheryl A. LaFleur Dissent on Order Issuing Certificates and Granting Abandonment Authority (Mountain Valley Pipeline and Atlantic Coast Pipeline (Oct. 13, 2017) [hereinafter Statement of FERC Commissioner], <https://www.ferc.gov/news-events/news/commissioner-cheryl-lafleur-dissent-order-issuing-certificates-and-granting> [<https://perma.cc/E7MH-BVPB>].

¹⁵⁹ See *id.*

¹⁶⁰ See *id.*

¹⁶¹ See *id.*

¹⁶² See *id.*

own interest.¹⁶³ With pressure from industry (e.g., Dominion Energy's political influence as the largest campaign contributor in the Commonwealth in recent years),¹⁶⁴ government and industry pressure landowners and communities to accept their decisions without question.

Those affected by energy infrastructure, including pipelines and generation assets, landfills, and other polluting and dangerous infrastructure, have begun insisting on fair inclusion and involvement.¹⁶⁵ Formerly closed spaces and behind-door practices have been exposed by 'pipeline politics': activists took what was supposed to remain hidden, pried it open, and made it visible.¹⁶⁶ In Virginia, pipeline politics coincided with the environmental justice movement's claims to decision-making spaces: some of these are invited spaces.¹⁶⁷ More importantly, there are those we have claimed and created: we provide examples of these collaborative and transformative spaces in Part IV, with mention here in Figure 2 of efforts like rural job training centers as resiliency hubs.¹⁶⁸

¹⁶³ Mark Haugaard, *Concerted Power Over*, 22 CONTELLATIONS 147, 148 (2015).

¹⁶⁴ See, e.g., Patrick Wilson, *Power Play: Inside the Dominion Lobby Blitz That's Going to Raise Your Electric Bills*, RICHMOND TIMES-DISPATCH (Oct. 10, 2020), https://richmond.com/news/state-and-regional/power-play-inside-the-dominion-lobbying-blitz-thats-going-to-raise-your-electric-bills/article_fe3bc3bc7-37cd-5ff8-90d6-fd303849765d.html [<https://perma.cc/E4QZ-FUJS>].

¹⁶⁵ Crystal "Red Bear" Cavalier-Keck, *A Landmark Environmental Precedent Was Just Set in Virginia*, THE NATION (Feb. 2, 2022), <https://www.thenation.com/article/politics/mvp-pipeline-virginian-precedent/> [<https://perma.cc/9VF3-5CZH>]; Imre Szeman, *Introduction: Pipeline Politics*, 116 SOUTH ATLANTIC QUARTERLY 402, 403 (2017).

¹⁶⁶ *Id.*

¹⁶⁷ Mark Armao, *North Carolina Tribes Fear Pipeline Will Damage Waterways, Burial Grounds*, GRIST (Oct. 15, 2021), <https://grist.org/article/mountain-valley-pipeline-and-indigenous-land/> [<https://perma.cc/9CS8-7XZ4>]. Invited spaces can become a burden for disabled and elderly populations, as well as for families with childcare constraints. Often traveling long distances to participate in public forums, the effort rural populations make to participate in public comments should not be trivialized; people may travel for three hours to speak for three minutes. FEMA, A GUIDE TO SUPPORTING ENGAGEMENT AND RESILIENCY IN RURAL COMMUNITIES 21, 24 (July 2020).

¹⁶⁸ See discussion *infra* Part IV.

Figure 2: Forms of Power¹⁶⁹

Form of power	Description	Examples
Visible	Observable decision-making	Visible and definable aspects of political power: the formal rules, structures, authorities, institutions, and procedures of decision-making (e.g., permits, laws, lawsuits) as well as the informal everyday politics of resistance (e.g., petitions, direct action, rural resiliency hubs)
Hidden	Setting the political agenda	Control over who gets a seat at the decision-making table, what is on the agenda, and who has access to information (e.g., data in/equity)
Invisible	Shaping meaning and what is acceptable	Ability to shape beliefs, sense of self, acceptance of the status quo; socialization perpetuates exclusion and inequality by defining what is normal, acceptable and safe (e.g., gas company disinformation, neoliberal multiculturalism)

A legal definition of 'front line' population is under development.¹⁷⁰ Vulnerable individuals living at the fence line of projects can experience spikes in exposures at unsafe levels that contribute to disease and even death,¹⁷¹ even while the annual average of criteria emissions at a distant pollution sensor remains within legally mandated limits.¹⁷² Damage to lungs from prior exposure to pollutants impacts healing and reduces

¹⁶⁹ John Gaventa, *Finding the Spaces for Change: a Power Analysis*, 37 IDS BULLETIN 23, 25 (2006).

¹⁷⁰ Pollution hotspots have microscale variation. *See generally* Rafael Borge et al., *Assessment of Microscale Spatio-Temporal Variation of Air Pollution at an Urban Hotspot in Madrid (Spain) Through an Extensive Field Campaign*, 140 ATMOSPHERIC ENV'T 432 (2016).

¹⁷¹ *See generally id.*

¹⁷² *See generally id.*

immunity.¹⁷³ Front line generally refers to proximity of releases, but the spatial boundaries delineating rural pollution clusters is not yet defined in legal terms.¹⁷⁴ Even so, in Virginia, these proximate exposures have informed court decisions, including *Friends of Buckingham*, and influenced recent permit decisions.¹⁷⁵ When a large cluster of houses exists in a known historic site, such as Union Hill,¹⁷⁶ developers that use countywide demographic averages erase the facts that the majority of residents near the site are Black, or that sizable homecomings and church gatherings are regularly held in and near the proposed blast zone radius.¹⁷⁷

Fabricated ‘empty spaces’ in Indigenous territories are used to justify impacts in inhabited and culturally important areas.¹⁷⁸ Courts often require clear formal jurisdiction, a spatial fix by dominant groups, in which marginalized groups lose land.¹⁷⁹ Structures, especially expensive infrastructure, can be difficult to change once established, and the dispossession of people with less power or lower property valuations allows the superimposition of structures on Native and Black geographies, which become increasingly entrenched across time.¹⁸⁰ As one example, the easements for railroads and highways form racist ruts across Virginia.¹⁸¹ Reparations are unresolved for Indigenous and Black people,¹⁸² despite the popularity of market fixes, when they benefit those in power.

Mitigation funds seldom adequately address damages, and social funds for minority groups can boil down to payments that stand in for

¹⁷³ Elisa Marino, *Impact of Air Quality on Lung Health: Myth or Reality*, 6 THERAPEUTIC ADVANCES IN CHRONIC DISEASE 286, 286 (2015).

¹⁷⁴ *Equitable Adaptation Legal & Policy Tool Kit*, GEO. CLIMATE CTR., <https://www.georgietownclimate.org/adaptation/toolkits/equitable-adaptation-toolkit/introduction.html> [<https://perma.cc/LAE4-AVU9>] (last visited Apr. 3, 2022).

¹⁷⁵ *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 87 (4th Cir. 2020).

¹⁷⁶ *Id.* at 85.

¹⁷⁷ *Id.* at 85, 89; see generally Finley-Brook et al., *supra* note 11. See *infra* Figure 5.

¹⁷⁸ Charles R. Hale, *Resistencia Para Que? Territory, Autonomy and Neoliberal Entanglements in the ‘Empty Spaces’ of Central America*, 40 ECON. & SOC’Y 184, 189 (2011).

¹⁷⁹ *Id.* at 190–91; see generally Mary Finley-Brook, *Territorial ‘Fix’? Tenure Insecurity in Titled Indigenous Territories*, 35 BULLETIN LATIN AM. RSCH. 338 (2016).

¹⁸⁰ Ben Jefferson, *Contesting Knowledge, Contested Space: Language, Place, and Power in Derek Walcott’s Colonial Schoolhouse*, 36 TEORIE VĚDY/THEORY OF SCI. 77, 78 (2014); Mary Finley-Brook, *Green Neoliberal Space: The Mesoamerican Biological Corridor*, 6 J. LATIN AM. GEOGRAPHY 101, 103 (2007).

¹⁸¹ SHARON PONTON ET AL., *UNION HILL: REAL PROPERTY, RACISM AND ENVIRONMENTAL JUSTICE* 23, 27–28 (Oct. 2009), https://www.bredl.org/pdf6/191029_Union_Hill.pdf [<https://perma.cc/4B97-G4GC>].

¹⁸² Dylan C. Penningroth, *The Claims of Slaves and Ex-Slaves to Family and Property: A Transatlantic Comparison*, 112 AM. HIST. REV. 1039, 1066, 1069 (2007).

and stand in the way of environmental justice.¹⁸³ Rights of a group in support of market-oriented energy can become weaponized against others' rights to oppose said 'development' where claims overlap,¹⁸⁴ resulting in neoliberal multiculturalism with market-influenced valuation of culture and race.¹⁸⁵ Multi-ethnic territories face a lack of clarity, where informal, collective, or flexible institutions, like heirs of property in Union Hill, are not as well protected under law.¹⁸⁶

II. ILLUSTRATIVE CASES

Our three illustrated cases are Native and Black historically and in the present. All three hotspots¹⁸⁷ experience divide and conquer tactics from outside companies and lateral violence (e.g., harm enacted by one marginalized group on another). For example, in Charles City County, the formal recognition of one leader from one tribe as decision-maker has obscured the objections of the more populous Black and mixed-race populations living near the site, who also suffer health consequences.¹⁸⁸

¹⁸³ PONTON ET AL., *supra* note 181, at 3–5; see generally Mary Finley-Brook, *Justice and Equity in Carbon Offset Governance: Debates and Dilemmas* 98–112, in *THE CARBON FIX* (Stephanie Paladino & Shirley J. Fiske eds., 1st ed. 2016).

¹⁸⁴ Charles R. Hale, *Does Multiculturalism Menace? Governance, Cultural Rights and the Politics of Identity in Guatemala*, 34 J. LATIN AM. STUD. 485, 498 (2002).

¹⁸⁵ Charles R. Hale, *Neoliberal Multiculturalism*, 28 POLAR: POLITICAL & LEGAL ANTHROPOLOGY REV. 10, 13, 24 (2005).

¹⁸⁶ Roy W. Copeland, *Heir Property in the African American Community: From Promised Lands to Problem Lands*, 2 PRO. AGRIC. WORKERS J. 1, 1 (2015); Jess Gilbert et al., *The Loss and Persistence of Black-Owned Farms and Farmland: A Review of the Research Literature and its Implications*, 18 S. RURAL SOCIO. 1, 8, 17 (2002). See also Finley-Brook, *supra* note 179, at 342, 348.

¹⁸⁷ See Figure 3.

¹⁸⁸ Maura Mazurowski, *Massive New Charles City Natural Gas Plant, Which Will Emit Millions of Tons of Carbon, Approved by State Air Board*, VA. MERCURY (June 22, 2019, 12:45 PM), <https://www.virginiamercury.com/blog-va/massive-new-charles-city-natural-gas-plant-which-will-emit-millions-of-tons-of-carbon-approved-by-state-air-board/> [<https://perma.cc/S3WC-ZTNS>].

Figure 3: Three Rural Hotspots¹⁸⁹

Hotspot	Industry (company name; initiation date)
<i>Union Hill, Buckingham County</i>	Gas transmission -Williams Transco easement (1950s) -ACP easement (not yet returned to land-owners) -Buckingham CS (not built, ACP cancelled) Petroleum transmission -Colonial Pipeline (1964) Open pit gold mining -Aston Bay (2019 exploratory drilling)

¹⁸⁹ See generally ASTON BAY, EXPLORING FOR GOLD AND BASE METALS IN VIRGINIA (Mar. 2022), https://astonbayholdings.com/site/assets/files/1526/aston_bay_corporate_march_2022_final2.pdf [<https://perma.cc/V76B-T2H2>]; EPA, *Plant Information, Transco Gas Pipe Line Corp Station 165*, https://enviro.epa.gov/enviro/afs_reports.detail_plt_view?p_state_county_compliance_src=5114300120 [<https://perma.cc/QFY5-MRFH>] (last visited Apr. 3, 2022); Statement of FERC Commissioner, *supra* note 158; *Berry Hill Energy Connection Project*, AEP TRANSMISSION, <https://www.aeptransmission.com/virginia/BerryHill/> [<https://perma.cc/AQY3-EVHL>] (last visited Apr. 3, 2022); Sarah Vogelsong, *Uranium Mining Ban Upheld as Supreme Court of Va. Declines to Reopen Lower Court Ruling*, VA. MERCURY (Sept. 30, 2021, 3:57 PM), <https://www.virginiamercury.com/blog-va/uranium-ban-upheld-as-supreme-court-of-va-declines-to-reopen-lower-court-ruling/> [<https://perma.cc/UF4H-AUG3>]; ASTON BAY, *Mountain Base Metals Project and Base Metals Belt*, <https://astonbayholdings.com/projects/virginia-usa/polymetallic-base-and-precious-metals/> [<https://perma.cc/W94G-EDL8>] (last visited Apr. 3, 2022); *Landfill*, PITTSYLVANIA COUNTY VA., <https://pittsylvaniacountyva.gov/142/Landfill> [<https://perma.cc/H5PZ-KKGV>] (last visited Apr. 3, 2022); see generally DANVILLE-PITTSYLVANIA REGIONAL INDUSTRIAL FACILITY AUTHORITY, REVISED AGENDA MARCH 9, 2020, <https://www.danville-va.gov/ArchiveCenter/ViewFile/Item/3108> [<https://perma.cc/8CKV-5MAT>]; see generally *Va. Natural Gas, Inc. v. Colonna's Ship Yard Inc.* 101 Va. Cir. 501 (Circuit Court of the City of Norfolk, 2018); *INGENCO Information*, ROCKET REACH, https://rocketreach.co/ingenco-profile_b5c75aadf42e0d0e [<https://perma.cc/A5G6-B8RR>] (last visited Apr. 3, 2022); *Sand and Gravel in Charles City, Virginia*, CHANEY ENTERPRISES, <https://www.chaneyenterprises.com/locations/Charles-City-Sand-and-Gravel> [<https://perma.cc/K2PD-KEJA>] (last visited Apr. 3, 2022); see generally RICHMOND REGIONAL PLANNING DISTRICT COMMISSION & COUNTY OF CHARLES CITY, *MOVING CHARLES CITY FORWARD A STUDY OF ROUTE 106* (2018), <http://www.co.charles-city.va.us/DocumentCenter/View/592/Route-106-Study-Final?bidId=> [<https://perma.cc/F7XC-5QX7>]; *Chaney Enterprises Enters Central Virginia Market with GreenRock Materials Acquisition*, CHANEY ENTERPRISES (Oct. 2, 2020), <https://www.chaneyenterprises.com/article/Chaney-Enterprises-Enters-Central-Virginia-Market-with-GreenRock-Materials-Acquisition> [<https://perma.cc/H2SV-73M2>].

Hotspot	Industry (company name; initiation date)
<i>Chatham, Pittsylvania County</i>	<p>Gas transmission</p> <ul style="list-style-type: none"> -Williams Transco Pipeline easements (late 1940s) -Williams Transco CS 165 (1957) -Williams Transco CS 166 (2017) -Mountain Valley Pipeline mainline easement (2017) -Mountain Valley Pipeline Southgate Extension easement (2019) -Lambert CS (2021 permit denied; 2022 appealed) <p>Utility transmission</p> <ul style="list-style-type: none"> -AEP Transmission Berry Hill Energy Connection Project (approved) <p>Uranium mining</p> <ul style="list-style-type: none"> -Virginia Uranium (1982 uranium ban; 2019 and 2020 ban upheld) <p>Metal mining</p> <ul style="list-style-type: none"> -Aston Bay (2022 exploration) <p>Regional landfill</p> <ul style="list-style-type: none"> -Pittsylvania County (1974; 2018 expanded) <p>Industrial megasite</p> <ul style="list-style-type: none"> -Berry Hill (Southern Virginia megasite) (2017)
<i>Roxbury, Charles City County</i>	<p>Gas transmission</p> <ul style="list-style-type: none"> -Chickahominy Power Station (2019 permitted; 2022 cancelled) -C4GT Power Station (2020 withdrawn) -Virginia Natural Gas easement (2018) -Virginia Natural Gas Header Improvement Project (2020 withdrawn) <p>Petroleum transmission</p> <ul style="list-style-type: none"> -Colonial Pipeline (1964) <p>Utility transmission</p> <ul style="list-style-type: none"> -Dominion Energy Transmission Line easements (South-North and West-East)

Hotspot	Industry (company name; initiation date)
	<ul style="list-style-type: none"> -Dominion Energy Skiffes Creek alternative easement (pending) -Dominion Energy Chickahominy Substation (2018 expanded) Mega-landfill <ul style="list-style-type: none"> -Waste Management Landfill (1990 original; expansion pending) Waste-to-energy facility <ul style="list-style-type: none"> -INGENCO (2004 original; expansion pending) Gravel and sand mining <ul style="list-style-type: none"> -Aggregate Industries (2011 original; expansion pending) -Bruce Howard Contracting (2013) -Charles City Sand and Gravel (2021) Industrial hub <ul style="list-style-type: none"> -Roxbury Corridor (mid-1980s) -Charles City Concrete (2020)

A. *Case Study One: Erasure of Existence, Heritage, Collective Property in Union Hill*

ACP developers pushed their interstate fracked gas transmission pipeline project from West Virginia's Marcellus Shale region across Virginia and North Carolina against shifting markets and regulation.¹⁹⁰ Some observers believe the O&G industry pushes to install infrastructure, sensing a closing window for approval of fossil fuel projects with guaranteed long-term profits.¹⁹¹ Utilities expect profitable returns for their shareholders, and are not simply providing a service.¹⁹²

¹⁹⁰ Chandler Randol et al., *The Future of Pipelines*, 51 ENV'T L. REP. 10005, 10006 (2021).

¹⁹¹ *Id.* at 10008.

¹⁹² There are few marketplace investment opportunities that provide double-digit rates of return to investors for three or four decades. *See generally* JACK CASAZZA & FRANK DELEA, UNDERSTANDING ELECTRIC POWER SYSTEMS, AN OVERVIEW OF TECHNOLOGY, THE MARKETPLACE, AND GOVERNMENT REGULATION (2nd ed., 2010); *see also* HAYES ET AL., CARROTS FOR UTILITIES: PROVIDING FINANCIAL RETURNS FOR UTILITY INVESTMENTS IN ENERGY EFFICIENCY 2–3 (2011). Utilities ratepayers are forced to pay for approved projects. *See generally* FINLEY-BROOK & METTS, *supra* note 150. This incentivizes utilities to make

Gas transport in pipelines requires compression at high pressure to cover great distances.¹⁹³ To do so, CS permitting processes exploit rural marginalization. The ACP CSs were located over 200 miles apart,¹⁹⁴ consolidating the hazardous emissions from highest compression on historic environmental justice communities, despite an industry standard both smaller and closer to fifty-sixty miles apart.¹⁹⁵ The four turbines in Union Hill were to be gas-fired and their size was increased numerous times between announcement of the project and FERC certification.¹⁹⁶ By gradually increasing the size of the CS, developers avoided greater scrutiny about the safety and health risks for a single community at the outset.¹⁹⁷ Under the National Ambient Air Quality Standards, the high-quality ambient air found in Union Hill's A1 Agriculture Zone, with no existing sources of methane pollution except from cattle farming, allowed ACP to emit the highest levels of all emissions at this compressor compared with their West Virginia and North Carolina CSs.¹⁹⁸ Thus, by being good stewards of their land, air, and water quality, the ACP would target this community for the highest health risks.

Dominion Energy, largest stakeholder in the ACP,¹⁹⁹ applied for the Union Hill site claiming it was "sparsely populated" using the county's average census data, 29.3 people per square mile, and reported zero

such investments, knowing that they can lock in lucrative, long term returns and that even if the infrastructure is not used for its anticipated life cycle, ratepayers will still have to cover these expenses.

¹⁹³ PIPELINE SAFETY TR., PIPELINE BASICS & SPECIFICS ABOUT NATURAL GAS PIPELINES 1 (2015); Sidhant Misra, *Optimal Compression in Natural Gas Networks: A Geometric Programming Approach*, 2 IEE TRANSACTIONS ON CONTROL OF NETWORK SYS. 46, 47 (2015).

¹⁹⁴ *Atlantic Coast Natural Gas Pipeline*, CHESAPEAKE BAY FOUND., <https://www.cbf.org/about-cbf/locations/virginia/issues/atlantic-coast-natural-gas-pipeline.html> [<https://perma.cc/2NE6-9JFZ?type=image>] (last visited Apr. 3, 2022).

¹⁹⁵ *Id.*

¹⁹⁶ See 161 FERC ¶ 61,042 (2017).

¹⁹⁷ ACP would not consider electric turbines to cut fine particulate matter emissions, partially because the historic division of service areas for utilities means Dominion does not provide direct utility service to Buckingham. See also *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 85 (4th Cir. 2020). The CS site is served by Central Virginia Electric Cooperative, which buys its electricity from Dominion. CURRENT COMMUNICATOR, MEMBER NEWSLETTER OF CENTRAL VIRGINIA ELECTRIC COOPERATIVE 1, 3 (2018), https://www.mycvec.com/assets/images/general/Winter_2018.pdf [<https://perma.cc/6VYA-7VT2>].

¹⁹⁸ LAKSHMI FJORD, UNION HILL COMMUNITY HOUSEHOLD STUDY SITE AND METHODS REPORT 2 (2018).

¹⁹⁹ *Friends of Buckingham*, 947 F.3d at 94–95.

impacted historic resources.²⁰⁰ Lakshmi Fjord, a long-time Buckingham County resident and anthropologist,²⁰¹ co-created with community leaders a community participatory action research study of the households in a 1.1-mile radius of the CS site to uncover otherwise unknown population numbers, race identity, ages, pre-existing health conditions, uses of their land for agriculture, family heritage, and historic resources.²⁰² These replicable scientific methods and the data findings became the counter-data given in public comments, later used as evidence in the lawsuit that overturned ACP's air permit on the basis of disproportionate adverse health burdens on an environmental justice community.²⁰³ The ACP was later cancelled,²⁰⁴ having lost all eight required permits.²⁰⁵ Citizen science research brought a data-equity-making strategy to counter applicant-generated misinformation used by FERC for certification and DEQ to approve draft permits.²⁰⁶

The pipeline industry has seldom been required to remove pipe infrastructure when it is abandoned, leaving landowners and taxpayers to address issues that arise.²⁰⁷ Pipeline segments built by ACP before the project was abandoned are 'stranded in place.'²⁰⁸ Stranded assets will

²⁰⁰ *Id.* at 88–89.

²⁰¹ FJORD, *supra* note 198, at 1.

²⁰² *Id.*

²⁰³ *Friends of Buckingham*, 947 F.3d at 86.

²⁰⁴ Douglas A. Henderson et al., *Environmental Justice Litigation: Few Wins, Still Effective*, 36 NAT. RES. ENV'T 17, 17–18 (2021).

²⁰⁵ Travis J. Poulos, *The Modern-Day Case of the Lorax Within the Fourth Circuit*, 13 ELON L. REV. 291, 315 (2020).

²⁰⁶ This is because these methods require workshops to allow cultural experts (community-respected elders, most often) to design the qualitative, open-ended visits to dialogue with household members that achieved this study's seventy-seven percent response rate (high by any community standards), where people at that time would not open their doors to census takers who were strangers and because of centuries-long experiences of their stories being used against them. See Jessica Stanford, *Why Some Americans Don't Trust the Census*, GOV'T EXEC. (Mar. 10, 2020), <https://www.govexec.com/management/2020/03/why-some-americans-don-t-trust-census/163649/> [<https://perma.cc/86MP-5RSC>]. Where to even speak of race, much less racism, was customarily silenced for survival purposes when living where their ancestors had been enslaved by the ancestors of their white neighbors. See LAKSHMI FJORD, PART II: HOUSEHOLDS: DEMOGRAPHICS, HEALTH, LAND USE, AND FAMILY HERITAGE 1, 12–13 (Dec. 2020).

²⁰⁷ Justine Calma, *Even if Oil and Gas Disappear, Pipelines Are Here to Stay*, THE VERGE (Aug. 6, 2020, 1:48 PM), <https://www.theverge.com/21356423/oil-gas-pipelines-abandoned-enbridge-line-3> [<https://perma.cc/A8KZ-PWQ5>].

²⁰⁸ Jeremy Cox & Tamara Dietrich, *In Virginia Battleground, Natural Gas Pipeline Projects Face Reversals*, BAY J. (Sept. 7, 2020), <https://www.bayjournal.com/news/energy/in-vir>

increase in number and magnitude as fossil fuel use declines.²⁰⁹ This rural placement in deteriorated corridors is alongside existing infrastructure.²¹⁰ Use of existing easements can reinforce racist siting after decades with little environmental review and minimal regulatory oversight. Transco sited the original pipeline through low-wealth rural communities.²¹¹ In Union Hill as in the next case of Chatham in Pittsylvania County, the easements carved through historic Black communities.²¹² The ACP CS was sited at an intersection with the now three-pipeline Transco Corridor, established in the late 1950s.²¹³

Figure 4: Transco Pipeline in Union Hill²¹⁴



ginia-battleground-natural-gas-pipeline-projects-face-reversals/article_f738b436-eee1-11ea-bf1d-1f5d3e84cd53.html [https://perma.cc/5GMP-28C8].

²⁰⁹ Calma, *supra* note 207.

²¹⁰ SARAH WRIGHT ET AL., ENVIRONMENTAL JUSTICE CONCERNS AND THE PROPOSED ATLANTIC COAST PIPELINE ROUTE IN NORTH CAROLINA 1 (Mar. 2018), <https://www.rti.org/rti-press-publication/environmental-justice-concerns-and-proposed-atlantic-coast-pipeline-route/fulltext.pdf> [https://perma.cc/3T8M-TJTU].

²¹¹ Erik Ortiz, *How Money Stokes Divide of Historic Black Community in Virginia Pipeline Battle*, NBC NEWS (Dec. 7, 2018, 4:48 AM), <https://www.nbcnews.com/news/us-news/how-money-stokes-divide-historic-black-community-virginia-pipeline-battle-n943236> [https://perma.cc/E9ZT-WF9C].

²¹² FJORD, *supra* note 206, at 10.

²¹³ See Figure 4.

²¹⁴ Mary Finley-Brook, Transco Pipeline in Union Hill (photograph) (author's source).

Families in Union Hill faced ACP eminent domain takings of heirs' property in an A1 Agriculture zone.²¹⁵ Since 1910, the heirs' property system has been responsible for Black landowners losing eighty percent of the farming land owned by previous generations.²¹⁶ Heirs' property dispossession is the leading cause of involuntary land loss among Black Americans.²¹⁷ Repeated generational transfers to multiple individuals after death of intestate family members in communities that have little access to legal professionals or cultural inclination to consult such professionals mean families often face double discounting during forced sale.²¹⁸ Property rights are under threat as collective cultural institutions.²¹⁹ Among shortcomings of dominant U.S. property rights regimes are their failure to recognize and protect communal holdings and their failure to effectively incorporate ethnic or cultural differences.²²⁰

The system is set up to facilitate growth of industry, with assumed benefits to society, not to protect history, health or safety of affected people, and animals. Friends of Buckingham ("FOB"), a grassroots local non-profit created in response to the ACP proposal,²²¹ realized that the system does not require the ACP to conduct the kind of baseline air and water testing that would be required if in the future it became necessary to prove harm caused by ACP infrastructure.²²² Recognizing that everyone

²¹⁵ PONTON ET AL., *supra* note 181, at 24.

²¹⁶ Bonnie A. Coblenz, *MSUMSU Extension Resources Aid Heirs' Property Issues*, MISS. ST. EXTENSION SERVICE (Sept. 9, 2021), <https://extension.msstate.edu/news/feature-story/2021/msu-extension-resources-aid-heirs%E2%80%99-property-issues> [<https://perma.cc/3XPZ-HK8U>].

²¹⁷ Lizzie Presser, *Their Family Bought Land One Generation After Slavery. The Reels Brothers Spent Eight Years in Jail for Refusing to Leave It*, PROPUBLICA (July 15, 2019), <https://features.propublica.org/black-land-loss/heirs-property-rights-why-black-families-lose-land-south/#:~:text=David%20Dietrich%2C%20a%20former%20co,is%20estimated%20to%20make%20up> [<https://perma.cc/S8WG-D8X8>].

²¹⁸ Thomas W. Mitchell et al., *Forced Sale Risk: Class, Race, and the Double Discount*, 37 FLA. ST. UNIV. L. REV. 589, 615–17 (2009).

²¹⁹ Janice F. Dyer & Conner Bailey, *A Place to Call Home: Cultural Understandings of Heir Property among Rural African Americans*, 73 RURAL SOCIO. 317, 335 (2008).

²²⁰ Cheryl L. Harris, *Whiteness as Property*, 106 HARV. L. REV. 1707, 1721–22 (1993).

²²¹ *About Us*, FRIENDS OF BUCKINGHAM, <https://www.friendsofbuckinghamva.org/friends/about-us/> [<https://perma.cc/LHP8-HW85>] (last visited Apr. 3, 2022).

²²² HEIDI DHIVYA BERTHOUD, 2018 FRIENDS OF BUCKINGHAM BASELINE TESTING PROJECT OF WELL WATER, SURFACE WATER, AIR, HEALTH—FINAL REPORT, FRIENDS OF BUCKINGHAM (July 2019), <https://www.friendsofbuckinghamva.org/friends/2018-friends-of-buckingham-baseline-testing-project-of-well-water-surface-water-air-health-final-report/> [<https://perma.cc/N682-JM4S>].

was dependent upon private wells, FOB designed, obtained funding, and conducted baseline water testing using procedures that would stand in court, if required.²²³ FOB also tested indoor air in homes on the front line of the Union Hill CS and conducted a survey of the existing health status of front line residents.²²⁴ A prior baseline health study had been a part of the door-to-door household study, and the data uncovered was cited in the Fourth Circuit's decision to overturn the air permit.²²⁵

Buckingham is one of Virginia's 'burnt counties,'²²⁶ where courthouse arson on the night the Fifteenth Amendment was passed (enforcing this two to one majority formerly enslaved male population's rights to vote) was the means employed by former owners to destroy specific individuals' records of enslavement to avoid payments of restitution.²²⁷ By erasing all of their recorded, legal histories, former enslavers protected their remaining wealth gained through the system of slavery.²²⁸

Virginia DEQ's refusal to accept the community household study demography and history²²⁹ was structural violence in the erasures of lives, health issues, and heritage at this site. DEQ also ignored evidence from drone and satellite images given in public comments that countered ACP and DEQ claims of being "sparsely populated," when a brief drive or flyover disproves such claims.²³⁰ In 2020, rebuking ACP's and Virginia's

²²³ *Id.*

²²⁴ *Id.*

²²⁵ *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 86 (4th Cir. 2020); Chad Oba, *Key ACP Permit Vacated*, FARMVILLE HERALD, <https://www.farmvilleherald.com/tag/atlantic-coast-pipeline/> [<https://perma.cc/LET6-ULG4>] (last visited Apr. 3, 2022).

²²⁶ *Burned Counties Research*, FAMILY SEARCH, https://www.familysearch.org/wiki/en/Burned_Counties_Research [<https://perma.cc/FS75-JWUU>] (last visited Apr. 3, 2022).

²²⁷ Brandon Shillingford, *For Black Virginians, Fight Against White Supremacy Continues*, VPM (Mar. 1, 2021, 5:01 AM), <https://vpm.org/news/articles/20742/for-black-virginians-fight-against-white-supremacy-continues> [<https://perma.cc/LJZ7-888Z>].

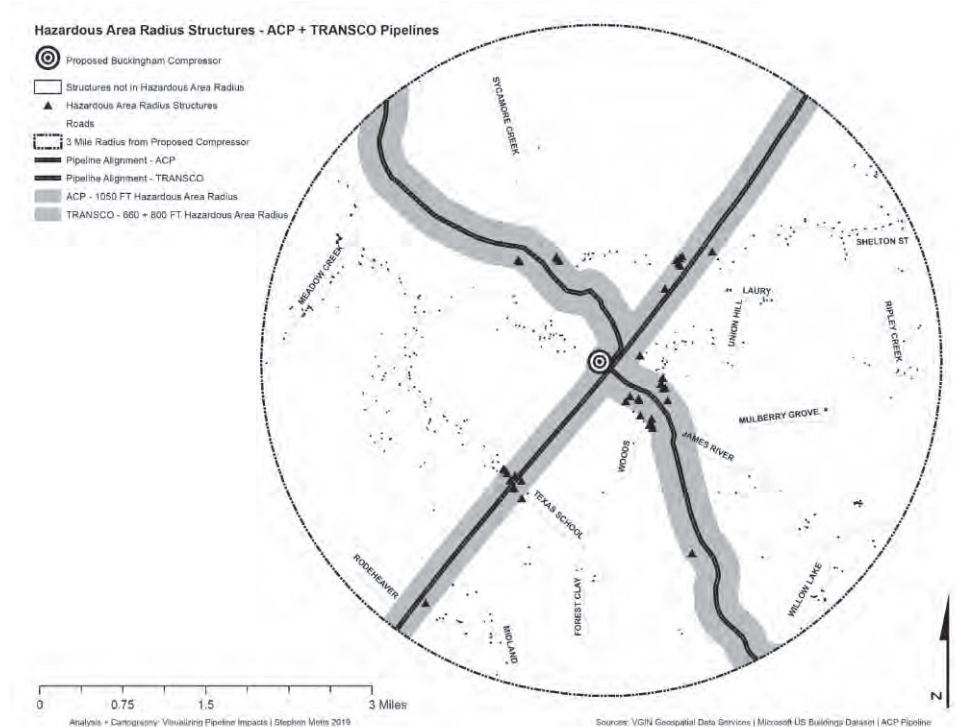
²²⁸ CHARLES W. WHITE, *THE HIDDEN AND THE FORGOTTEN: CONTRIBUTIONS OF BUCKINGHAM BLACKS TO AMERICAN HISTORY* 106–07, 109 (Lamp-Post Publicity 2017).

²²⁹ Travis L. Williams, *Resisting Technocratic Erasure—Environmental Racism, Racial Capitalism, and the Fight Against the Union Hill Compressor Station*, SCIENCE FOR THE PEOPLE (July 19, 2021), <https://magazine.scienceforthepeople.org/vol24-1-racial-capitalism/environmental-justice-resisting-technocratic-erasure/> [<https://perma.cc/5M88-VHAV>]; Letter Re: Environmental Justice Review of Virginia's Gas Infrastructure from Advisory Council on Environmental Justice, to Governor Northam (Aug. 16, 2018), https://www.naturalresources.virginia.gov/media/governorvirginiagov/secretary-of-natural-resources/pdf/ACEJ-Letter~approved-8_28_18.pdf [<https://perma.cc/MAH7-WM4X>].

²³⁰ Stephen Metts, *Dominion Energy and Environmental Racism: A Case Study in How*

general erasure of rural Black history, Union Hill Rural Historic District was the first Free Black built rural community in Virginia granted eligibility for historic register status.²³¹ Based on the household study, burial sites, homeplaces and archival research, the application also reported the majority of residents are descendants of formerly enslaved people on this site or nearby plantations.²³²

Figure 5: Comprehensive Risk Mapping in Union Hill²³³



to Lie with Maps, MEDIUM (Jan. 7, 2019), <https://stephen-metts.medium.com/dominion-energy-environmental-racism-a-case-study-in-how-to-lie-with-maps-9d7b54d65003> [https://perma.cc/76EZ-7QH7].

²³¹ *Union Hill Makes History—Again*, S. ENV'T LAW CTR. (Feb. 1, 2021), <https://www.southernenvironment.org/news/union-hill-makes-historyagain/> [https://perma.cc/2CNJ-ZXSC].

²³² See Figure 5.

²³³ Stephen Metts, Geospex, LLC, Hazardous Radius Structures—ACP + Transco Pipelines (photograph) (author's source).

Pipeline companies use political clout to squeeze targeted land-owners on their routes, whether with low royalties at well sites, exploitative private land easement settlements, or takings by eminent domain.²³⁴ Construction poses threats to livelihoods (e.g., disruption of family farm businesses and raising concerns about farm animal health).²³⁵ Facing resistance, Dominion Energy enabled lateral violence by creating Greater Buckingham Community Development Corporation with a subset of Union Hill Black residents.²³⁶ Dominion Energy came up with a \$5.1 million payout to a small group of descendants who opposed the ACP.²³⁷ Divide and conquer strategies pit families, neighbors, communities, or ethnic groups against one another.

Impacted peoples called the ACP's route the Map of Injustice;²³⁸ one of many examples of racial discrimination included a lateral terminus in Hampton Roads in a predominantly Black neighborhood.²³⁹ The ACP mainline terminus, another 'sacrifice zone,' was sited in a Lumbee town in North Carolina.²⁴⁰ The ACP route directly impacted more Indigenous People than the Dakota Access Pipeline: "30,000 Natives live within 0.9-mile of the proposed [ACP] pipeline."²⁴¹ The MVP also cuts directly through Indigenous territories.²⁴²

²³⁴ Juliet Grable, *Reformers Set Sights on Corporate Land Grabs for Energy Projects*, SIERRA CLUB (Feb. 22, 2021), <https://www.sierraclub.org/sierra/reformers-set-sights-corporate-land-grabs-for-energy-projects> [https://perma.cc/BT2H-V65R].

²³⁵ Michelle Bamberger & Robert E. Oswald, *Long-Term Impacts of Unconventional Drilling Operations on Human and Animal Health*, 50 J. ENV'T SCI. & HEALTH, PART A 447, 447, 450 (2015).

²³⁶ Ortiz, *supra* note 211.

²³⁷ Ben Paviour & Abi Cole, *A Historically Black Town Stood in the Way of a Pipeline—so Developers Claimed it Was Mainly White*, THE GUARDIAN (Sept. 16, 2021, 5:00 AM), <https://www.theguardian.com/us-news/2021/sep/16/virginia-atlantic-coast-pipeline-union-hill-historically-black-town> [https://perma.cc/8KE9-HGZB].

²³⁸ *Atlantic Coast Pipeline Map of Injustice*, ENV'T JUSTICE, <https://www.envirjustice-acp-mvp-peopletribunals.org/> [https://perma.cc/6RYE-YLBV] (last visited Apr. 3, 2022).

²³⁹ *Id.*

²⁴⁰ Emanuel, *supra* note 2, at 260.

²⁴¹ *Id.*

²⁴² Armao, *supra* note 167.

B. Case Study Two: Chatham's Infrastructure-Driven Sacrifice Belt

Like Buckingham County, colonial tobacco cultivation influenced Pittsylvania County's cultural landscape.²⁴³ Pittsylvania hosted the first production of 'bright' (yellow) tobacco in an 'Old Belt' where bright tobacco was first grown.²⁴⁴ In 1906, federal and state funds subsidized the first research experiment station to study tobacco diseases and fertilizers in the tobacco belt.²⁴⁵ Hampton Roads was the export port for tobacco brought down the James River.²⁴⁶

The Southern Virginia Megasite at Berry Hill,²⁴⁷ an industrial megasite created in 2001, received stimulus money from the Virginia Tobacco Region Revitalization Commission,²⁴⁸ which uses tobacco funds to attempt to renew development in areas where tobacco economies collapsed.²⁴⁹ Berry Hill is the largest megasite in the southeastern United States.²⁵⁰ Berry Hill has direct access to Transco with an existing gate station, yet few of the project's major investments have been paid for.²⁵¹

²⁴³ Jim Crawford, *A Peek at the Script: "Bright Leaf: The Tobacco Culture of the Old Belt of Virginia,"* HORIZONS (May/June 2002), <https://www.sites.ext.vt.edu/newsletter-archive/REAP/Horizons/may%20june%2002.pdf> [<https://perma.cc/5L5B-2NGT>].

²⁴⁴ Maud Carter Clement, *Agriculture, Trade, and Industry, in AN ABBREVIATED HISTORY OF PITTSYLVANIA COUNTY, VA.*, <https://www.victorianvilla.com/sims-mitchell/local/clement/mc/abb/07.htm> [<https://perma.cc/VV8D-6B35>] (last visited Apr. 3, 2022).

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ Press Release, Pittsylvania County, Governor Northam Announces \$150 Million in "Site Ready" Funds; Southern Virginia Megasite at Berry Hill Expected to Significantly Benefit (Dec. 16, 2021), <https://pittsylvaniacountyva.gov/DocumentCenter/View/5362/Funds-for-Berry-Hill-Megasite> [<https://perma.cc/UVS3-4DH4>].

²⁴⁸ Sponsorship came from the Tobacco Commission, Danville Regional Foundation, City of Eden, City of Danville, Institute of Advanced Research and Learning, Pittsylvania Board of Supervisors, and others. *Id.*

²⁴⁹ MICHAEL C. WESTFALL, REP. #2020-A-0001, TOBACCO REGION REVITALIZATION COMM'N (Nov. 2019).

²⁵⁰ The megasite sought the Quest Superpark certification, which developers believe demonstrates preparedness and can entice investment. Press Release, Southern Virginia Regional Alliance, Southern Virginia Megasite Earns Quest Site Certification (July 8, 2021), <https://www.gosouthernvirginia.com/news/southern-virginia-megasite-earns-quest-site-solutions-certification> [<https://perma.cc/M2FK-8W3L>].

²⁵¹ Original plans were revised after Dominion Energy canceled a promised \$300 million gas-fired peaker plant. Itinease McMiller, *\$250 Million Berry Hill Industrial Park Project Canceled*, ABC 13 NEWS (Jan. 22, 2018), <https://wset.com/news/local/250-million-berry-hill-industrial-park-project-canceled> [<https://perma.cc/RJV3-4T7G>]; Lanie Davis, *Dominion Energy Pulls Plug on Megasite Power Station Project in Pittsylvania Co.*, CHATHAM STAR

Localities may be left on the hook if private investment fails to materialize.²⁵²

Site developers, Dewberry,²⁵³ claim to be community-based yet use a government's buzzword to suggest their priority is 'critical infrastructure.'²⁵⁴ The megasite's incentives focus on attracting external developers. Attention to the local geography has been minimal; for example, Berry Hill needs to undergo a historical review.²⁵⁵ A cemetery of formerly enslaved people exists at the site.²⁵⁶ Important histories of this region have not received necessary attention or resources.²⁵⁷ Educational and historical tourism in a beautiful, remote county (the most rural in Virginia)²⁵⁸ can be important in regional job creation. Instead, similar to the invasive coloniality of past tobacco plantations, Chatham's geography centers around an interstate pipeline, with MVP and Berry Hill aligning to Transco.²⁵⁹ Before

TRIB. (Dec. 4, 2020), https://www.chathamstartribune.com/news/article_bd403e20-35ae-11eb-a032-6ff93ff2cfc1.html [https://perma.cc/6Y94-DN7D].

²⁵² Alan Suderman & Sarah Rankin, *Va. Tobacco Commission Grants Can Leave Communities on the Hook*, SEATTLE TIMES (Oct. 10, 2020, 6:33 PM), <https://www.seattletimes.com/business/tobacco-commission-grants-can-leave-communities-on-the-hook/> [https://perma.cc/H762-B7U5].

²⁵³ Tom Dixon, *Dewberry To Continue Servicing Berry Hill Project*, CHATHAM STAR TRIB. (July 13, 2021), https://www.chathamstartribune.com/news/article_49bc94b4-e407-11eb-b23d-57860dc608.html [https://perma.cc/JXH9-DWMQ].

²⁵⁴ Leslie Barksdale, *A Community Based Practice: Delivering Creative Funding Solutions for Critical Infrastructure*, DEWBERRY (Feb. 18, 2021), <https://www.dewberry.com/insights-news/post/blog/2021/02/18/a-community-based-practice-delivering-creative-funding-solutions-for-critical-infrastructure> [https://perma.cc/VP7J-PQFM].

²⁵⁵ See FHMater, *Berry Hill Plantation, Forgotten History*, FORGOTTEN HISTORY (Dec. 18, 2016, 11:31 AM), <http://forgottenhistory.us/node/850> [https://perma.cc/5C6G-RP3X].

²⁵⁶ John Crane, *Old Slave Cemetery Found at Proposed Berry Hill Mega Park Site*, THE NEWS & ADVANCE (Apr. 24, 2019), https://newsadvance.com/archives/old-slave-cemetery-found-at-proposed-berry-hill-mega-park-site/article_aa605bd2-d6cc-52b3-b90e-cfcc87f540d6.html [https://perma.cc/3SSX-6AVM].

²⁵⁷ John Crane, *Pittsylvania Historical Society Pushing County to Invest in New Director for Museum and Historic Sites*, DANVILLE REG. & BEE (Oct. 2, 2021), https://godanriver.com/news/local/pittsylvania-historical-society-pushing-county-to-invest-in-new-director-for-museum-and-historic-sites/article_b6a14052-22e1-11ec-ac9f-37dc3c3333bb.html [https://perma.cc/L4U4-HETU].

²⁵⁸ Elias Weiss, *Pittsylvania County Named Most Rural in Virginia, County Official Disagrees*, CHATHAM STAR TRIB. (May 20, 2021), https://www.chathamstartribune.com/news/article_d70b92e6-b97f-11eb-ab56-a728edfa1932.html [https://perma.cc/WW3C-354B].

²⁵⁹ John Crane, *Dominion Cancels Plans for \$200 Million, 500MW Gas Peaking Plant in Virginia*, INS. ENERGY ECON. FIN. ANALYSIS (Dec. 4, 2020), <https://ieefa.org/dominion-cancels-plans-for-200-million-500mw-gas-peaking-plant-in-virginia/> [https://perma.cc/GRL7-BUC8].

making state investments like the Tobacco Commission, decision-makers should learn from the boom and bust of prior large-scale singular economies, where jobs wax and wane.²⁶⁰ People-centered regional development focused on history, tourism, and green jobs would provide a very different model for sustainable and equitable development.

The proposed Lambert CS would propel gas from the partly built, but not yet operational MVP mainline, onto a proposed MVP Southgate Extension into North Carolina.²⁶¹ The need for the MVP was inflated.²⁶² According to Williams Transco, the MVP Southgate Extension is unnecessary as the current system can meet demand.²⁶³ This Marcellus shale buildout is encouraged by glut and incentivized through profit from pipeline construction with guaranteed returns for utilities. Forcing ratepayers and taxpayers to pay for the interest on loans and these returns for energy companies generally remains protected by legislators, even when state budgets are tight.²⁶⁴

Federal and state agencies with ineffective regulatory capabilities are too often willing to bend or change the rules,²⁶⁵ even for companies

²⁶⁰ See Haley Zaremba, *From Boom Town To Ghost Town: Texas Grapples With Low Oil Prices*, OILPRICE.COM (May 27, 2020, 11:00 AM), <https://oilprice.com/Energy/Energy-General/From-Boomtown-To-Ghosttown-Texas-Grapples-With-Low-Oil-Prices.html> [<https://perma.cc/8RHE-FWPZ>].

²⁶¹ *Victory for Environmental Justice: Mountain Valley Pipeline Compressor Station Permit Denied*, S. ENV'T L. CTR. (Dec. 6, 2021), <https://www.southernenvironment.org/news/victory-for-environmental-justice-mountain-valley-pipeline-compressor-station-permit-denied/> [<https://perma.cc/954G-BWGL>].

²⁶² SPENCER PHILLIPS, KEY-LOG ECON., REASON FOR CAUTION: MOUNTAIN VALLEY PIPELINE ECONOMIC STUDIES OVERESTIMATE BENEFITS, DOWNPLAY COSTS (Oct. 2015), http://www.keylogeconomics.com/uploads/1/1/9/5/119575398/mvp_benefitscritique_20151006.pdf [<https://perma.cc/3BMW-JD9D>].

²⁶³ See Laurence Hammack, *Mountain Valley Pipeline's Extension Opposed by Existing Transco Pipeline*, THE ROANOKE TIMES (Mar. 16, 2021), https://roanoke.com/news/local/mountain-valley-pipelines-extension-opposed-by-existing-transco-pipeline/article_a450c4ae-8697-11eb-b3d4-43e6c258f581.html [<https://perma.cc/V6EG-8MU7>]; Dyna Mariel Bade, *Transco Asks Courts to Deny Mountain Valley Pipe Expansion Easement Request*, S&P GLOBAL (Mar. 17, 2021, 8:02 PM), <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/031721-transco-asks-court-to-deny-mountain-valley-pipe-expansion-easement-request> [<https://perma.cc/2GV4-6LG3>].

²⁶⁴ See Sarah Rankin & Alan Suderman, *Bill Aims to Answer Pipeline Question: 'Is this necessary?'*, WASH. TIMES (Feb. 21, 2020), <https://www.washingtontimes.com/news/2020/feb/21/bill-aims-to-answer-pipeline-question-is-this-nece/> [<https://perma.cc/57NN-PYRG>].

²⁶⁵ Emily Satterwhite, *With Variance, FERC Allows Mountain Valley Pipeline to Play It by Ear*, VA. MERCURY (Apr. 15, 2019, 11:20 PM), <https://www.virginiamercury.com/2019>

with high violation records like MVP.²⁶⁶ The MVP process demonstrates regulatory capture²⁶⁷ of federal (e.g., FERC) and state agencies leading to approval of a high risk pipeline. Out of forty-six recent long-distance U.S. fossil gas pipelines, the MVP crosses 225 miles of high landslide risk areas,²⁶⁸ the most out of recent pipelines.²⁶⁹ A sinkhole crisis obscured by builders continues as a persistent risk of explosions and critical failures.²⁷⁰ The pipes are also expensive at \$6.4 billion (and rising) for only 303 miles of MVP pipeline.²⁷¹ Meanwhile the pipeline system has high GHG emissions, equivalent to dozens of coal plants.²⁷²

In the Natural Gas Act, Congress allowed FERC to award businesses certificates allowing essentially the government's taking power (i.e., eminent domain).²⁷³ O&G industry has perfected use of eminent domain,²⁷⁴

/04/15/with-variance-ferc-allows-mountain-valley-pipeline-to-play-it-by-ear/ [https://perma.cc/M9ED-GZC6].

²⁶⁶ Kate Mishkin et al., *What Happens When a Pipeline Runs Afoul of Government Rules? Authorities Change the Rules.*, PROPUBLICA (Aug. 10, 2018, 3:15 PM), <https://www.propublica.org/article/west-virginia-halted-mountain-valley-pipeline> [https://perma.cc/A84W-CM4Q].

²⁶⁷ Aakshi Agarwal, *Regulatory Agency Capture: How the Federal Energy Regulatory Commission Approved the Mountain Valley Pipeline*, YALE UNIV. 1, 2–5 (May 2021), https://elischolar.library.yale.edu/applebaum_award/22/ [https://perma.cc/6KTW-K3KE] (Harvey M. Applebaum '59 Award).

²⁶⁸ Jacob D. Hileman et al., *Recycled Text and Risk Communication in Natural Gas Pipeline Environmental Impact Assessments*, 156 ENERGY POL'Y at 5, 7, 9 (2021).

²⁶⁹ While builders generally avoided mountainous areas in the past, the similar Leach Express Pipeline was put into service in January 2018 and experienced a devastating explosion in June of the same year. *Leach Xpress Pipeline Explodes in Marshall County, WV*, MARCELLUS DRILLING NEWS (June 8, 2018), <https://marcellusdrilling.com/2018/06/leach-xpress-pipeline-explodes-in-marshall-county-wv/> [https://perma.cc/24KM-UD9W].

²⁷⁰ Duncan Adams, *Mountainous Karst Landscape Should Be a 'No Build' Zone for Pipeline, Geologist Says*, THE ROANOKE TIMES (July 7, 2016), https://roanoke.com/business/mountainous-karst-landscape-should-be-a-no-build-zone-for-pipeline-geologist-says/article_1b19b16e-cd10-5d87-a124-0bfb7e55fe2b.html [https://perma.cc/7M79-5W7H].

²⁷¹ Elizabeth Corner, *IEEFA: Financial Rationale Evaporates for Mountain Valley Pipeline*, WORLD PIPELINES (Mar. 9, 2021, 10:22 AM), <https://www.worldpipelines.com/project-news/09032021/ieefa-financial-rationale-evaporates-for-mountain-valley-pipeline/> [https://perma.cc/BB8T-KGCY].

²⁷² Sam Kalen & Shi-Ling Hsu, *Natural Gas Infrastructure: Locking in Emissions?*, 34 NAT. RES. ENV'T 1, 3, 6 (2020).

²⁷³ Natural Gas Act of 1938, 52 Stat. 821 § 1(b); James W. Ely, Jr., *The Controversy over Energy Takings: A Tale of Pipelines and Eminent Domain*, 9 BRIGHAM-KANNER PROP. RTS. J. 173, 175, 182–83 (2020).

²⁷⁴ Rebecca Ewing, *Pipeline Companies Target Small Farmers and Use Eminent Domain for Private Gain*, 38 N.C. CENT. L. REV. 125, 131–34 (2016).

invoking the threat of its use from the initial contact with landowners.²⁷⁵ In eminent domain ‘takings,’ private property owners receive what is usually modest payments for the seizure of their land for easements, while still being required to pay property taxes.²⁷⁶ Experiences of landowners impacted by the MVP were especially egregious.²⁷⁷ Pipeline companies, such as MVP, are implicitly supported in their decisions to take land²⁷⁸ by a legal system which is inherently biased in their favor and against landowners, as the Givens family discovered.²⁷⁹ Due to vague regulations and judicial leniency, gas pipeline companies have almost no practical

²⁷⁵ Holdouts, meaning people who refuse to sell their property when a pipeline company wants to seize their land, can delay projects and cause the costs to rise if they refuse to sell. Abel M. Winn & Matthew W. McCarter, *Who’s Holding Out?: An Experimental Study of the Benefits and Burdens of Eminent Domain*, UNIV. TEX. SAN ANTONIO, COLL. BUS. 1, 2, 4 (2016). Economists used game theory to identify how to eliminate holdouts. *See id.* at 5–6. These economists were funded by Koch Industries, which wanted to learn how to beat these landowners to take their land quickly while compensating less. *See id.* at 1; *see also Koch Family Foundations*, DESMOG, <https://www.desmog.com/koch-family-foundations/> [<https://perma.cc/2ZHP-RTAE>] (last visited Apr. 3, 2022) (Control+F International Foundation for Research in Experimental Economics (IFREE)). Economists with George Mason University employed computer game theory using students to show that if companies encourage competition while reducing access to information, they have more power to gain land at the bargaining table. Mark DeSantis et al., *Land Assembly Without Eminent Domain: Laboratory Experiments of Two Tax Mechanisms* 14 (Geo. Mason Mercatus Ctr. Working Paper, 2018). Winn and McCarter argued for land ‘assembly,’ meaning an attempt to destroy a holdout’s position by making them expendable. Abel M. Winn & Matthew W. McCarter, *Who’s Holding Out?: An Experimental Study of the Benefits and Burdens of Eminent Domain*, UNIV. TEX. SAN ANTONIO, COLL. BUS. 1, 2 (Sept. 20, 2016).

²⁷⁶ *See* J. Eric Rochford, *How Is Just Compensation Determined In An Eminent Domain Matter?*, COHEN & MALAD, LLP ATTORNEYS, <https://www.cohenandmalad.com/eminent-domain-just-compensation/> [<https://perma.cc/S5GQ-WTRZ>] (last visited Apr. 3, 2022).

²⁷⁷ The MVP launched an aggressive lawsuit against hundreds of landowners to force entry for surveying at the start of the project. *See* Madelyne Ashworth, *The Lives Destroyed by the Mountain Valley Pipeline*, RVA MAGAZINE (Dec. 6, 2017), <https://rvamag.com/photo/photo-essay-the-lives-destroyed-by-the-mountain-valley-pipeline.html> [<https://perma.cc/T2BP-UKJV>]. For broader evidence of abuse, *see* Ewing, *supra* note 274, at 125, 127–28, 131–32; *see also* Ann M. Eisenberg, *Land Shark at the Door? Why and How States Should Regulate Landmen*, 27 FORDHAM ENV’T L. REV. 157, 158–61 (2016).

²⁷⁸ *See generally* Martina Angela Caretta & Kristen Abatsis McHenry, *Pipelining Appalachia: A Perspective on the Everyday Lived Experiences of Rural Communities at the Frontline of Energy Distribution Networks Development*, 63 ENERGY RSCH. & SOC. SCI. 101403 (2020).

²⁷⁹ Karen Alday, *Givens v. Mountain Valley Pipeline, LLC and the Unresolved Circuit Split*, 7 TEX. A&M J. PROP. L. 137, 138–41 (2021).

restraint in exercising eminent domain. Current operations mirror that of the federal government's authority to exercise immediate possession.²⁸⁰

The MVP Chatham CS site is similar to Union Hill, as both are recognized environmental justice communities.²⁸¹ Chatham's site is already impacted by two existing Transco CSs, with a third proposed by MVP—all within one mile of each other.²⁸² Additionally, the proposed siting of MVP's Lambert CS targets the historic Banister district.²⁸³

MVP's Lambert CS siting follows a familiar playbook of environmental racism.²⁸⁴ Like the Union Hill CS, the Air Board's decision to reject this permit site adds further precedent to evolving environmental justice norms.²⁸⁵ At first, regulators seemed uncertain how to receive input from the local community.²⁸⁶ The project was elevated to the Air Board, at the

²⁸⁰ See Will Michaels, *Atlantic Coast Pipeline Seeks Eminent Domain in NC*, N.C. PUB. RADIO (Dec. 7, 2017, 10:01 AM), <https://www.wunc.org/environment/2017-12-07/atlantic-coast-pipeline-seeks-eminent-domain-in-nc#:~:text=Duke%20Energy%20and%20Dominion%20Energy%20have%20filed%20court,corridor%2C%20connecting%20to%20fracking%20operations%20in%20West%20Virginia> [https://perma.cc/2FWP-WLJU].

²⁸¹ Press Statement, Chesapeake Bay Found., Southside Virginia Pipeline Compressor Station Raises Environmental Justice Concerns (Apr. 27, 2021), <https://www.cbf.org/news-media/newsroom/2021/virginia/southside-virginia-pipeline-compressor-station-raises-environmental-justice-concerns.html> [https://perma.cc/PAM4-BHBT?type=image].

²⁸² Whitney Pipkin, *Virginia County Fends Off Natural Gas Plant, But Battles Continue*, BAY J. (Aug. 23, 2021), https://www.bayjournal.com/news/energy/virginia-county-fends-off-natural-gas-plant-but-battles-continue/article_03a0b6c6-0451-11ec-9950-47cbf821ba51.html [https://perma.cc/4UXQ-U9FN].

²⁸³ Elias Weiss, *Bridge Formally Dedicated to Pittsylvania County's First Black Supervisor*, CHATHAM STAR TRIB. (Sept. 15, 2021), https://www.chathamstartribune.com/news/article_ddcbdfd6-164b-11ec-a555-77a4cadcd9d2.html [https://perma.cc/68UH-XZA7].

²⁸⁴ Elizabeth Jones & Queen Shabazz, *Mountain Valley Pipeline Follows Familiar Playbook: Push Pollution into Poor and Minority Communities*, VA. MERCURY (July 2, 2021, 12:01 AM), <https://www.virginiamercury.com/2021/07/02/mountain-valley-pipeline-follows-familiar-playbook-push-pollution-into-poor-and-minority-communities/> [https://perma.cc/EZ2L-RLJC]; Karen Campblin & Samantha Adhoot, *On Environmental Justice, the Mountain Valley Pipeline Is an Old Story*, WASH. POST (Nov. 26, 2021, 10:00 AM), <https://www.washingtonpost.com/opinions/2021/11/26/environmental-justice-mountain-valley-pipeline-is-an-old-story/> [https://perma.cc/QSX5-87T7].

²⁸⁵ See Niina H. Farah, *How Va. Pipeline Ruling May Reshape Environmental Justice*, E&ENews (July 20, 2021, 6:42 AM), <https://www.eenews.net/articles/how-va-pipeline-ruling-may-reshape-environmental-justice/> [https://perma.cc/HN9H-E96T].

²⁸⁶ Sarah Vogel song, *As It Takes Up Another Contentious Permit, Air Board Wrestles with Public Engagement*, VA. MERCURY (Apr. 29, 2021, 5:00 AM), <https://www.virginiamercury.com/2021/04/29/as-it-takes-up-another-contentious-permit-air-board-wrestles-with-public-engagement/> [https://perma.cc/NUK6-9BG7]; *Pittsylvania NAACP Asks DEQ to Refer MVP Permit to Air Pollution Control Board*, CHATHAM STAR TRIB. (Mar. 8, 2021)

request of the Pittsylvania County, National Association for the Advancement of Colored People (“NAACP”), and others.²⁸⁷ As there were surging rates of COVID-19 and community demands for safe access to hearings, events were rescheduled and shifted various times.²⁸⁸ The Air Board seemed to struggle on how to address issues of proximity and cumulative impact.²⁸⁹ A major concern was how the increase in particulate matter might additionally burden households already living with two CSs.²⁹⁰ Would cumulative impacts of three CSs be adequately considered? In the environmental justice review it was unclear what distance would be considered for assessments of disproportionate harm (one, three, or five miles away).²⁹¹ An anthropologist, Alexa Lawrence, from the private consulting firm Land and Heritage Consulting,²⁹² identified four environmental justice communities.²⁹³ She identified three miles as front line and five miles as a buffer zone.²⁹⁴ MVP’s recap of this consultancy report relied mainly on a one-mile delineation and used it to disregard the environmental justice populations located beyond this.²⁹⁵ In other words, Equitrans misused their paid consultant’s findings.

In her report, consultant Alexa Lawrence inserted market-oriented processes for addressing environmental damage and harm to the people and histories of the area.²⁹⁶ She acknowledged that there would be harm and argued there must be direct benefits to make up for it: as an outsider

[hereinafter *Pittsylvania NAACP*], https://www.chathamstartribune.com/news/article_52141b58-8018-11eb-9948-9bd1a8856f32.html [<https://perma.cc/G5KX-C49T>].

²⁸⁷ *Pittsylvania NAACP*, *supra* note 286.

²⁸⁸ Vogel song, *supra* note 286.

²⁸⁹ Kelly Scarff, *Mapping Vicarious Proximity: Holistic and Dualistic Metaphors in a Mountain Valley Pipeline Public Hearing*, 15 ENV’T COMMC’N 514, 515–16 (2021).

²⁹⁰ Matthew Zeazey, *MVP Southgate Developers Eye ‘Next Steps’ After Virginia DEQ Panel Denies Permit*, NAT. GAS INTEL. (Dec. 6, 2021), <https://www.naturalgasintel.com/mvp-developers-eye-next-steps-after-virginia-deq-panel-denies-permit/> [<https://perma.cc/Z72L-S5TD>].

²⁹¹ ALEXA SUTTON LAWRENCE, UPDATED COMMUNITY IMPACT ASSESSMENT OF LAMBERT COMPRESSOR STATION 15 (Feb. 2021), <https://www.deq.virginia.gov/home/showpublisheddocument/5326/637499574094200000> [<https://perma.cc/CN5L-5CFF>].

²⁹² *See id.* at 1.

²⁹³ *Id.* at 16.

²⁹⁴ *Id.* at 15, 23.

²⁹⁵ Press Release, Chesapeake Bay Foundation, Kenny Fletcher, Southside Virginia Pipeline Compressor Station Raises Environmental Justice Concerns (Apr. 27, 2021), <https://www.cbf.org/news-media/newsroom/2021/virginia/southside-virginia-pipeline-compressor-station-raises-environmental-justice-concerns.html> [<https://perma.cc/T3NS-7ETY>].

²⁹⁶ *See* LAWRENCE, *supra* note 291, at 1–3.

drawing from a few brief conversations with select county residents, she determined 'direct' benefits to include a donation to a history museum.²⁹⁷ Market-based structures advantage certain groups and individuals over others.²⁹⁸ When millions of dollars are transferred to mitigation funds, it is clear recognition of damage along with the fact that the people most harmed are not receiving compensation. The broader economic structure of the projects allows for costly externalities, which primarily include public health expenses and community conflict.²⁹⁹

Facing the siting of a third CS in Chatham, Pittsylvania County, NAACP's newly formed Environmental Justice Committee took the lead,³⁰⁰ organizing allies and impacted residents with first person evidence of disproportionate disease among Black and Native residents.³⁰¹ The Air Board voted six to one to deny a draft air permit, with board members citing precedence in the Union Hill Buckingham lawsuit and requirements of the new EJ Act.³⁰² As expected, the rare exercise of citizen board authority, after years of permitting DEQ staff and administration to usurp the role of the Air Board, led to criticism and a demand to reform the "activist" Air Board.³⁰³ In addition, lawmakers later proposed state legislation seeking to eviscerate the power of all citizen boards, which were in place prior to the creation of DEQ.³⁰⁴ At the time of this writing,

²⁹⁷ *Id.* at 52.

²⁹⁸ *Id.* at 41, 52–53.

²⁹⁹ *Id.* at 40, 42–43.

³⁰⁰ *Pittsylvania NAACP Hosts Environmental Justice Webinar*, CHATHAM STAR TRIB. (Aug. 23, 2021), https://www.chathamstartribune.com/news/article_5e395b96-0411-11ec-8eb8-bffd710fcabb.html [<https://perma.cc/V8LK-H3S3>].

³⁰¹ John Crane, *Permit Denied for Proposed Mountain Valley Pipeline Southgate Compressor Station in Pittsylvania County*, DANVILLE REG. & BEE (Dec. 3, 2021), https://godanriver.com/news/local/permit-denied-for-proposed-mountain-valley-pipeline-southgate-compressor-station-in-pittsylvania-county/article_43833d0e-547e-11ec-ae8d-a73c8838e28c.html [<https://perma.cc/CNP6-HZGL>].

³⁰² Patrick Larson, *Key Mountain Valley Pipeline Structure Fails to Get Permit Approval*, VPM (Dec. 3, 2021, 2:26 AM), <https://vpm.org/news/articles/27615/key-mountain-valley-pipeline-structure-fails-to-get-permit-approval> [<https://perma.cc/GX6H-GX6T>].

³⁰³ David Hudgins, *Hudgins: Let Science Speak: Time to Restructure Activist Citizen Boards After Denied Air Permit*, ROANOKE TIMES (Dec. 29, 2021), https://roanoke.com/opinion/columnists/hudgins-let-science-speak-time-to-restructure-activist-citizen-boards-after-denied-air-permit/article_af32de28-6037-11ec-a781-17016b7c9939.html [<https://perma.cc/4PRT-VY7C>].

³⁰⁴ Press Statement, Chesapeake Bay Foundation, Kenny Fletcher, Legislation Would Cripple Virginia Air and Water Boards, Reduce Public Transparency (Jan. 26, 2022), <https://www.cbf.org/news-media/newsroom/2022/virginia/legislation-would-cripple-vir>

the Fourth Circuit will evaluate a permits appeal for the Lambert CS.³⁰⁵ Political wrangling in Virginia in early 2022 included repealing the Virginia Clean Economy Act³⁰⁶ and efforts toward an even more stringent moratorium on new fossil fuel infrastructure,³⁰⁷ which reflected national politics in many ways.

Since 2017, there have been at least fifty-six civil actions brought in state and federal courts in Virginia against MVP.³⁰⁸ MVP “has faced an unusually high volume of litigation because it is an unusually unwise and unneeded project,” said a senior attorney with the Natural Resources Defense Council (whose national non-profit based in New York is not a plaintiff in the cases).³⁰⁹ Legal contests such as these are impactful as ‘legal monkeywrenching,’ a reference to ecodefense tactics like tree sits. Legal and physical blockades similarly seek to cause delay, providing time for regulatory and market shifts to finally occur.

However, this was not the first time that local residents defeated an environmental threat. Pittsylvania County holds the largest undeveloped uranium deposit in the United States, according to assertions by the deposit’s private owners.³¹⁰ Their discontent with the original state uranium ban from the early 1980s came to a legislative impasse in 2013.³¹¹

ginia-air-and-water-boards-reduce-public-transparency.html [https://perma.cc/S527-7ZZ7?type=image].

³⁰⁵ Laurence Hammack, *Mountain Valley Pipeline Faces Another Legal Battle*, THE ROANOKE TIMES (Dec. 23, 2021), https://roanoke.com/news/local/mountain-valley-pipeline-faces-another-legal-battle/article_60b53f2e-63fd-11ec-9899-fb7eee447de8.html [https://perma.cc/Q5FM-83JK].

³⁰⁶ *2020 Session: HB 1526 Electric Utility Regulation; Environmental Goals*, VA.’S LEGIS. INFO. SYS., <https://lis.virginia.gov/cgi-bin/legp604.exe?201+sum+HB1526> [https://perma.cc/NTW3-WKA6] (last visited Apr. 3, 2022).

³⁰⁷ Sarah Vogel song, *Top Northam Administration Officials Say State Should Not Forbid New Fossil Fuel Plants*, VA. MERCURY (Jan. 6, 2022, 12:01 AM), <https://www.virginiamercury.com/2022/01/06/top-northam-administration-officials-say-state-should-not-forbid-new-fossil-fuel-plants/> [https://perma.cc/W5WT-YZHD].

³⁰⁸ Laurence Hammack, *Legal Fights Continue Over the Mountain Valley Pipeline*, MARTINSVILLE BULL. (Jan. 8, 2022), https://martinsvillebulletin.com/news/state-and-regional/legal-fights-continue-over-the-mountain-valley-pipeline/article_ffc34322-2243-5d16-afbd-5452abd70ca8.html [https://perma.cc/LFB6-LJVD].

³⁰⁹ *Id.*

³¹⁰ *Judge Upholds Virginia’s Uranium Ban*, WORLD NUCLEAR NEWS (Aug. 4, 2020), <https://world-nuclear-news.org/Articles/Judge-upholds-Virginias-uranium-mining-ban> [https://perma.cc/44WR-87YY].

³¹¹ *Proposed East Coast Uranium Mine Dividing Va.*, USA TODAY (Jan. 26, 2013, 1:38 PM), <https://www.usatoday.com/story/news/nation/2013/01/26/virginia-uranium-mine/1866489/> [https://perma.cc/QQ4F-UE7Q].

In the two separate lawsuits that followed, the Supreme Court upheld the ban in 2019,³¹² and the Wise County Circuit Court upheld it in 2020.³¹³ Pittsylvania County faces a new threat to water safety and public health because the county is currently the target of exploratory drilling for copper and zinc mining.³¹⁴

The Pittsylvania County Landfill in Chatham lies adjacent to Transco.³¹⁵ The landfill had problems with odor prior to the investments in 2018.³¹⁶ Now, this public project is trying to generate more revenue from trash to pay off the investments.³¹⁷ Rural governments relying on waste importation often encourage dependency on subcontractors hauling trash, and Charles City, the first mega-landfill in the Commonwealth, exemplifies this practice of waste importation to generate revenue.³¹⁸ Some see the rehabilitation of a hazardous waste disposal Superfund site as an advance for rural development, but it leaves the community economically reliant on the same company that created the original issue—its priority Superfund listing.³¹⁹

³¹² Sarah Vogelsong, *Uranium Ban Upheld as Supreme Court of Va. Declines to Reopen Lower Court Ruling*, VA. MERCURY (Sept. 30, 2021, 3:57 PM), <https://www.virginiamercury.com/blog-va/uranium-ban-upheld-as-supreme-court-of-va-declines-to-reopen-lower-court-ruling/> [https://perma.cc/Y7PK-5DPV].

³¹³ *Id.*

³¹⁴ John Crane, *Exploratory Drilling for Copper, Zinc Underway in Pittsylvania County as New Environmental Coalition Forms*, DANVILLE REG. & BEE (Dec. 13, 2021), https://godanriver.com/news/local/exploratory-drilling-for-copper-zinc-underway-in-pittsylvania-county-as-new-environmental-coalition-forms/article_317a66ca-5c5b-11ec-b1d9-33d19469ca2e.html [https://perma.cc/LW5X-32SS].

³¹⁵ Caleb Ayers, *Pittsylvania County to Receive \$1.25 Million for Pipeline Easement, Right-of-Way; RIFA Still Negotiating Through Megasite*, DANVILLE REG. & BEE (June 19, 2020), https://godanriver.com/business/pittsylvania-county-to-receive-1-25-million-for-pipeline-easement-right-of-way-rifa-still/article_363dcc0b-ebdc-59d6-bc00-6eac16d2e5b6.html [https://perma.cc/Q7ZS-T6QC].

³¹⁶ Halle Parker, *Operational Changes Projected to Increase Long Term Revenue and Extend Life of Pittsylvania County Landfill*, DANVILLE REG. & BEE (June 25, 2018), https://godanriver.com/business/operational-changes-projected-to-increase-long-term-revenue-extend-life-of-pittsylvania-county-landfill/article_c1eac1a4-77fe-11e8-82d0-cba008e65959.html [https://perma.cc/SS6L-MMNP].

³¹⁷ *Pittsylvania County to Generate Revenue by Accepting Trash from Martinsville, Henry County*, CHATHAM STAR TRIB. (Oct. 27, 2020), https://www.chathamstartribune.com/news/article_9bf87a02-188a-11eb-9459-cf01ed0ccb7d.html [https://perma.cc/GLB8-PNXP].

³¹⁸ Dan Eggen, *In Charles City County, Trash Talk Hits Home*, WASH. POST (Jan. 17, 1999), <https://www.washingtonpost.com/archive/local/1999/01/17/in-charles-city-county-trash-talk-hits-home/31ece565-8db6-4873-beb5-4777581c7702/> [https://perma.cc/Z4JC-P6HH].

³¹⁹ Elias Weiss, *Quarry Full of Hazardous Waste Removed from Superfund List After 33*

C. *Case Study 3: Charles City County's Market-Oriented Multiculturalism*

For up to 22,000 years before contact with Europeans, the Chickahominy,³²⁰ Eastern Chickahominy, Pamunkey and other Algonquian Peoples inhabited territory near the James River that would later form a core of European colonization.³²¹ According to the Chickahominy, the Treaty of 1646 displaced them from their historic area along the eponymous Chickahominy River and carved out land for them in the Pamunkey Neck.³²² Settlers later crowded them out of this area as well, catalyzing a gradual migration in the mid-1700s. The Chickahominy families then moved back to the area called 'the Chickahominy Ridge,' where they now reside.³²³

William Henry Adkins inscribed the Chickahominy Tribe in the early 1900s.³²⁴ In this Jim Crow period, the Chickahominy rejected darker-skinned family members³²⁵ and split from the African American Cedar Grove Baptist Church to organize the Samaria Indian Baptist Church.³²⁶ Recognition of the Chickahominy Tribe occurred only after leaders took the advice of anthropologists to purge Black descendants.³²⁷ Most tribes in Virginia employed anti-Black discriminatory practices to defend their tribe as Native.³²⁸ Nevertheless, organizations, like the

Years, CHATHAM STAR TRIB. (Oct. 16, 2020), https://www.chathamstartribune.com/news/article_ed13b7de-0fcb-11eb-a9e4-ffd510654aaa.html [<https://perma.cc/LZ4Y-54DV>].

³²⁰ Helen Oliff, *Federal Recognition for Virginia Tribes*, P'SHIP WITH NATIVE AM. (Mar. 6, 2018), <http://blog.nativepartnership.org/federal-recognition-for-virginia-tribes-2/> [<https://perma.cc/7BDN-R9HE>].

³²¹ See William Wallace Tooker, *The Name Chickahominy, Its Origin and Etymology*, 8 AM. ANTHROPOLOGIST 257, 257–58, 260 (1895).

³²² *Post-Contact Era 1500–1900*, CHICKAHOMINY TRIBE, <https://www.chickahominytribe.org/tribal-history/post-contact-era-1500-1900> [<https://perma.cc/M48T-ZUY8>] (last visited Apr. 3, 2022).

³²³ Theodore Stern, *Chickahominy: The Changing Culture of a Virginia Indian Community*, 96 PROC. AM. PHIL. SOC'Y 157, 189, 200 (1952).

³²⁴ *20th Century*, CHICKAHOMINY TRIBE [hereinafter *20th Century*], <https://www.chickahominytribe.org/20th-century> [<https://perma.cc/3K5E-XJWA>] (last visited Apr. 3, 2022) (the Adkins family makes up a majority on the Tribal Council and has since inscription).

³²⁵ ARICA L. COLEMAN, *THAT THE BLOOD STAY PURE: AFRICAN AMERICANS, NATIVE AMERICANS, AND THE PREDICAMENT OF RACE AND IDENTITY IN VIRGINIA* 178 (2013).

³²⁶ *Id.* at 188.

³²⁷ There was loss of territory when identified as Black: the Gingaskin Tribe on the Eastern Shore was dispossessed of their reservation land in 1812 and members were declared no longer Indian and listed as Free Negro. *Id.* at 82–83.

³²⁸ *Id.*

Weyanoke Association, have a long history of documenting mixed Black and Native settlements and culture in Charles City.³²⁹ The area was also known for communities of Freed Blacks before emancipation.³³⁰

A location of national historical importance, Charles City is famous for James River plantations.³³¹ A hotspot of racial integrity arguments,³³² and tragically, the site of lynching,³³³ Charles City remains a battleground against white supremacy. A Confederate monument erected in 1900 persists at the Courthouse after a split vote in 2020, on a county referendum to remove it.³³⁴ Some wealthy white families minimize the area's history of enslavement in spite of evidence to the contrary.³³⁵ Charles City plantations functioning as museums have only recently begun making reference to slavery.³³⁶ In recent decades there has been an influx of white residents creating a major shift in demographics.³³⁷

³²⁹ *Telling Our Own Story: The Weyanoke Association*, THE WEYANOKE ASSOCIATION, <https://www.weyanoke.org/> [<https://perma.cc/3M3U-NHGP>] (last visited Apr. 3, 2022); Paul T. Murray, *Who Is an Indian? Who Is a Negro? Virginia Indians in the World War II Draft*, 95 THE VA. MAG. HIST. & BIOGRAPHY 219, 219 (1987).

³³⁰ See generally DARYL C. DANCE, *THE LINEAGE OF ABRAHAM: BIOGRAPHY OF A FREE BLACK FAMILY IN CHARLES CITY, VA.* (1998).

³³¹ *Between Richmond and Williamsburg*, JAMES RIVER PLANTATIONS, <http://www.jamesriverplantations.org/> [<https://perma.cc/VJ6Q-VZ3J>] (last visited Apr. 3, 2022).

³³² J. Douglas Smith, *The Campaign for Racial Purity and the Erosion of Paternalism in Virginia, 1922–1930: “Nominally White, Biologically Mixed, and Legally Negro,”* 68 J. S. HIST. 65, 102 (1988).

³³³ Bridget Balch, *First Historical Marker Commemorating a Lynching Victim in Va. Unveiled in Charles City County*, RICHMOND TIMES-DISPATCH (Apr. 7, 2019), https://richmond.com/news/local/central-virginia/first-historic-marker-commemorating-a-lynching-victim-in-va-unveiled-in-charles-city-county/article_575c9645-33ca-5019-b5ae-945b91d2f305.html#tncms-source=login [<https://perma.cc/SL2E-VSN2>].

³³⁴ Andrew Cain, *Update: Charles City Votes No in Advisory Referendum on Moving Confederate Statue*, RICHMOND TIMES-DISPATCH (Nov. 3, 2020), https://richmond.com/news/state-and-regional/govt-and-politics/update-charles-city-votes-no-in-advisory-referendum-on-moving-confederate-statue/article_fe12b0c7-9077-5c4a-aeec-ad3028121430.html [<https://perma.cc/VP95-VHFZ>].

³³⁵ For an exploration into the lack of acknowledgment, see generally Meredith Jackson, *The Enslaved People and the Tylers Too: Why It is Imperative to Discuss Slavery in Public History* (May 2021) (B.A. thesis, William & Mary), <https://scholarworks.wm.edu/cgi/viewcontent.cgi?article=2694&context=honorstheses> [<https://perma.cc/4B3T-R58L>].

³³⁶ Charles Clary, *Slavery Not Evident At James River Plantations*, DAILY PRESS (July 24, 1989, 12:00 AM), <https://www.dailypress.com/news/dp-xpm-19890724-1989-07-24-8907240075-story.html> [<https://perma.cc/X7TX-KAFR>]; Meredith Stone et al., *Searching for the Enslaved in the “Cradle of Democracy”: Virginia’s James River Plantation Websites and the Reproduction of Local Histories*, 56 SE. GEOGRAPHER 203, 204 (2016).

³³⁷ For population statistics demonstrating the changes in population in 2010 and 2020

In the late 1980s, Charles City became the site of experimentation as Virginia's first mega-landfill.³³⁸ Mega-landfills emerged as a result of privatization and consolidation of waste.³³⁹ Virginia's politics of waste importation was "out of sight, out of mind."³⁴⁰ In the early 1990s, liners were new, and safeguards put in place seemed like state of the art.³⁴¹

Trash sent to Virginia soon became controversial.³⁴² There was liner failure in the first decade: groundwater tests in 1998 revealed elevated levels of lead, chromium, and other toxic substances.³⁴³ Antimony showed up in groundwater.³⁴⁴ By the late 1990s more problems became apparent: DEQ fined Waste Management for dumping medical waste at this facility.³⁴⁵ In 2000, the Governor spotlighted illicit dumping of bio-hazards tied to the Charles City dump.³⁴⁶

Low population density was raised in 1990 as an argument for the construction.³⁴⁷ The issue was narrowly understood.³⁴⁸ Rhetoric from local officials claimed that tax relief and funds for the schools depended on

see *How Many People Live in Charles City County, Virginia*, STATESMAN JOURNAL, <https://data.statesmanjournal.com/census/total-population/total-population-change/charles-city-county-virginia/050-51036/> [<https://perma.cc/Y3D6-UDDA>] (last visited Apr. 3, 2022); *Quickfacts: Charles City County, Virginia*, U.S. CENSUS BUREAU (2020) [hereinafter *Charles City County 2020 Census*], <https://www.census.gov/quickfacts/charlescitycountyvirginia> [<https://perma.cc/JR9S-BDR4>].

³³⁸ Eggen, *supra* note 318.

³³⁹ See, e.g., Neil Seldman, *Monopoly and the U.S. Waste Knot*, INST. LOCAL SELF-RELIANCE (Dec. 4, 2018), <https://ilsr.org/monopoly-and-the-us-waste-knot/> [<https://perma.cc/MU4A-PX2A>]; J. W. Spear, Sr., *Privatizing Municipal Waste Management: A Case Study, Charles City County, Virginia*, in PROCEEDINGS: EIGHTEENTH INTERNATIONAL MADISON WASTE CONFERENCE (No. CONF 950978) (1995).

³⁴⁰ Ellyn Krevitz, *Not in My Landfill: Virginia and the Politics of Waste Importation*, 7 POL'Y PERSP. 5, 10 (2000).

³⁴¹ *Id.* at 6.

³⁴² Eric Lipton & R. H. Melton, *Tons More of N.Y. Trash Headed for Va.*, WASH. POST (Jan. 12, 1999), <https://www.washingtonpost.com/wp-srv/local/longterm/trash/trash0112.htm> [<https://perma.cc/FUG4-MM53>].

³⁴³ Krevitz, *supra* note 340, at 8.

³⁴⁴ Eric Lipton, *As Imported Garbage Piles Up, So Do Worries*, WASH. POST (Nov. 12, 1998), <https://www.washingtonpost.com/archive/politics/1998/11/12/as-imported-garbage-piles-up-so-do-worries/7c37aab3-10ba-4bab-9eb2-fbb579b5c738/> [<https://perma.cc/8URY-866W>].

³⁴⁵ Krevitz, *supra* note 340, at 8.

³⁴⁶ Kate Goff, *Virginia Hospital Faces Hefty Fine for Medical Waste Disposal Offense*, SOLID WASTE (Aug. 18, 2000), <https://www.solidwaste.com/doc/virginia-hospital-faces-hefty-fine-for-medica-0001> [<https://perma.cc/59YE-7MMY>].

³⁴⁷ Lipton, *supra* note 344.

³⁴⁸ Gerald D. Stedje & Leonard A. Shabman, *Municipal Solid Waste Management in Virginia: Rethinking the Choices* 6 (Rural Econ. Analysis Program, Policy Paper No. 6, 1995).

income from the dump.³⁴⁹ The county remains sparsely populated (6,773 residents according to the 2020 census), and waste is sent from across the region as well as from northeastern states.³⁵⁰ Waste Management, the current operator, leases the property.³⁵¹ Violations at the Charles City landfill fit the spotty track record of Waste Management over the past decade.³⁵² In 2013, DEQ identified a number of unmitigated seeps of leachate.³⁵³ In 2019, Waste Management received a notice of violation for failure of erosion controls.³⁵⁴ Waste Management operations created standing water that resembles a wetland, although lacking biodiversity and structure, which triggered an Army Corp of Engineers review in 2020.³⁵⁵

Waste Management has applied to utilize the full number of originally approved cells, approximately double the current utilization with construction of sixteen cells, while also facing conflict over expansion in other minority-majority areas.³⁵⁶ The landfill's impact on health and safety is important to the local community³⁵⁷ and most households rely on well water.³⁵⁸ There is also concern about surrounding croplands, farms, and

³⁴⁹ Laura Kebede, *Less Trash Led to Less Funding for Charles City County Schools*, RICHMOND TIMES-DISPATCH (Sept. 19, 2019), https://richmond.com/news/local/central-virginia/less-trash-led-to-less-funding-for-charles-city-county-schools/article_079434ca-3686-5bc2-a811-a399e6ea7d92.html [https://perma.cc/LA8Y-LYWW].

³⁵⁰ *Charles City County 2020 Census*, *supra* note 337; John Tierney, *Recycling Is Garbage*, N.Y. TIMES MAG., June 1996, at 24–29.

³⁵¹ *Charles City Landfill Facility Description*, WM SOLUTIONS, <https://www.wmsolutions.com/locations/details/id/234> [https://perma.cc/E523-39ZQ] (last visited Apr. 3, 2022).

³⁵² Waste Management has 157 environmental violations listed on Good Jobs First's Violations Tracker. *Violation Tracker Parent Company Summary*, GOOD JOBS FIRST, <https://violationtracker.goodjobsfirst.org/prog.php?parent=waste-management-inc> [https://perma.cc/DY7Y-8DHF] (last visited Apr. 3, 2022).

³⁵³ Beth Kreydatus, *Existing Virginia Landfills and Gas Operations Should Face Renewed Scrutiny*, VA. MERCURY (Feb. 1, 2022, 12:02 AM), <https://www.virginiamercury.com/2022/02/01/existing-virginia-landfills-and-gas-operations-should-face-renewed-scrutiny/> [https://perma.cc/QN4J-4JDX].

³⁵⁴ VA. DEP'T ENV'T QUALITY, WASTE MGMT NOTICE OF VIOL. Nos. 1904-001041 (Amelia Co.), 1903-00976 & 2019-07-PRO-201 (Charles City Co.) (Sept. 4, 2019).

³⁵⁵ U.S. ARMY CORPS OF ENG., PERMIT APPLICATION NOTICE NAO-2011-02448 (2020), <https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/15756> [https://perma.cc/V857-MRNU].

³⁵⁶ Anita Wadhwani, *Waste Management Sues Davidson County Over Landfill Expansion*, TENNESSEE LOOKOUT (May 6, 2021, 4:01 AM), <https://tennesseelookout.com/2021/05/06/waste-management-sues-davidson-county-over-landfill-expansion-rejection/> [https://perma.cc/54N2-JZ3Q].

³⁵⁷ See Kreydatus, *supra* note 353.

³⁵⁸ See *id.*

potential contamination of water sources for livestock.³⁵⁹ Upon closure, the landfill property will revert to the county.³⁶⁰

Before allowing expansion, developers should conduct an environmental justice assessment and complete a Preliminary Information Form for the Virginia Department of Historic Resources. The original project assessment never considered the importance of the St. Mary's Church Battleground and the long history of human occupation in this area. This was the site of a battle with U.S. Colored Troops in 1864 and remains of fallen soldiers might be on site.³⁶¹ Charles City's landfill expansion represents loss of historic Black history: St. Mary's Church Battlefield received historic register eligibility decades ago as a deadly battle fought by U.S. Colored Troops in the Civil War.³⁶² Waste Management's expanding operations will encompass a known historic Black site. These historic resources have not been taken into consideration nor adequately reviewed for protection as unique and important historical and cultural sites. The Chickahominy received state recognition in 1983,³⁶³ and federal recognition in 2018³⁶⁴—the same time the negotiation of a megaproject occurred. Projects were sited before the tribe received federal status.³⁶⁵

Permits are pending for a new leachate system for INGENCO's waste-to-energy facility in the landfill site, established in 2002.³⁶⁶ INGENCO seeks expansion of their landfill gas project with a significant increase in emissions.³⁶⁷ INGENCO operates the largest landfill gas

³⁵⁹ Magdalena Daria Vaverková et al., *Chemical Composition and Hazardous Effects of Leachate from the Active Municipal Solid Waste Landfill Surrounded by Farmlands*, 12 SUSTAINABILITY 4531, 4544 (2020).

³⁶⁰ Mia Korot, *Waste Management Holdings v. Gilmore: The Anything but Dormant Problem of Interstate Waste*, 13 VILL. ENV'T L.J. 315, 319 n.35 (2002).

³⁶¹ It is believed that the area contains unmarked burials of fallen troops. *Most Endangered Historic Places: Civil War Battlefields in which United States Colored Troops (USCT) Fought*, PRESERVATION VIRGINIA, <https://preservationvirginia.org/our-work/most-endangered-historic-places/> [<https://perma.cc/V926-UBEC>] (last visited Apr. 3, 2022).

³⁶² *Id.*

³⁶³ *20th Century*, *supra* note 324.

³⁶⁴ Joseph McClain, *President Signs Legislation Granting Federal Recognition to Six Virginia Tribes*, WM & MARY NEWS (Jan. 30, 2018), <https://www.wm.edu/news/stories/2018/william-mary-celebrates-movement-toward-federal-recognition-for-six-local-tribes.php> [<https://perma.cc/PMP2-HLY7>].

³⁶⁵ Kreydatus, *supra* note 353.

³⁶⁶ VA. DEP'T. ENV'T QUALITY, STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE 51998 (2022) (on file with author).

³⁶⁷ *Id.*

generation portfolio on the East Coast of the United States.³⁶⁸ While Charles City is a showcase,³⁶⁹ the county receives little financial benefit,³⁷⁰ and remote monitoring means INGENCO provides few jobs in the county.

The location of a Dominion Energy substation expansion following the Surry-Skiffes Creek³⁷¹ transmission line expansion in 2018 attracted a rush of energy development in Charles City.³⁷² While the substation location and capacity is a factor in recent siting, the first power plant proposal emerged twenty-five years ago.³⁷³ Despite favorable geography, several groups of developers have not been able to launch a gas project.³⁷⁴ There is uncertainty in the infrastructure in the area due to lack of transparency in the county government, and segmentation of various components of the same pipeline system have aided certain components to pass the regulatory process.³⁷⁵ Segmentation occurs because it makes the impact of each piece seem smaller; if a supply option fails to pass the regulatory process, in a hotspot like Charles City, there are other options. In recent years, there has been a near-constant stream of new proposals involving Transco, Columbia Gas, Virginia Natural Gas, and others.³⁷⁶

³⁶⁸ *About INGENCO*, CBINSIGHTS, <https://www.cbinsights.com/company/ingenco> [<https://perma.cc/43W9-E6D9>] (last visited Apr. 3, 2022).

³⁶⁹ Hailey Rischar, *Ingenco Salvages Diesel Engines for Waste to Energy*, WASTE TODAY MAGAZINE (Dec. 21, 2021).

³⁷⁰ INGENCO's assessed tax payment for 2021 is \$16,500 per electronic communications from D. Burrell Smith, Commissioner of the Revenue, Charles City Co. See Pipkin, *supra* note 282; McGowan, *supra* note 33.

³⁷¹ Geoffrey R. Grau, *A Necessary Negative: Analysis of the Tidewater Virginia Surry-Skiffes Creek Transmission Tower Litigation*, 44 WM. & MARY ENV'T L. & POL'Y REV. 621, 622 (2019).

³⁷² See, e.g., McGowan, *supra* note 33; Pipkin, *supra* note 282.

³⁷³ See McGowan, *supra* note 33.

³⁷⁴ Dennis Walmsted, *IEEFA US: Investors Would Best Avoid Two Proposed Virginia Combined-Cycle Gas Plants*, INST. FOR ENERGY ECON. AND FIN. ANALYSIS (Dec. 23, 2020), <https://ieefa.org/ieefa-u-s-investors-would-best-avoid-two-proposed-virginia-combined-cycle-gas-plants/> [<https://perma.cc/8B6A-D832>]; Dennis Walmsted, *Rapidly Changing Investment Climate Challenges Planned PJM Gas Plants*, INST. FOR ENERGY ECON. & FIN. ANALYSIS 1 (Nov. 2021), http://ieefa.org/wp-content/uploads/2021/11/Rapidly-Changing-Investment-Climate-Challenges-Planned-PJM-Gas-Plants_November-2021.pdf [<https://perma.cc/VEP4-LPVH>].

³⁷⁵ For example, see Sarah Vogelsong, *More Natural Gas Infrastructure Proposed for Second Charles City Plant*, VA. MERCURY (Dec. 20, 2019, 12:01 AM), <https://www.virginiamercury.com/2019/12/20/more-natural-gas-infrastructure-proposed-for-second-charles-city-plant/> [<https://perma.cc/N94E-LWAE>].

³⁷⁶ Pipkin, *supra* note 282.

The Skiffes Creek high voltage line became controversial due to the height and location of towers near historic Jamestown as well as the gigantic 500 kilovolt (kV) transmission line crossing the James River.³⁷⁷ Non-profits expressed alarm when staff with the State Corporation Commission changed unexpectedly mid-review—a pattern with Dominion Energy permits when a regulator asks difficult questions.³⁷⁸ Another watchdog organization charged Dominion Energy with inflating numbers to justify the expansion in the first place.³⁷⁹ The transmission project ended up in the courts in 2018 and was temporarily halted.³⁸⁰ While there is no way to accurately reconsider permits after construction, regulatory agencies had to redo the environmental impact assessment after construction.³⁸¹ They could not ignore the reality that disturbance existed, and it was hard to leave out of the second assessment.³⁸² By the time a second assessment happened, it was clear there had been alternative routes, and some were less expensive and caused less disruption.³⁸³

³⁷⁷ Brandon M. Butler & Stephen R. Burgin, *Jamestown and Power Lines: Teaching Controversy in an Inter-disciplinary Manner*, 80 SOC. EDUC. 46, 48 (2016).

³⁷⁸ Cortney Langley, *SCC Swaps Officer in Dominion Case*, VA. GAZETTE (Jan. 30, 2013).

³⁷⁹ Dave Ress, *Dominion Overstated Need for High-Voltage Power Line Across James River, Opponents' Study Says*, DAILY PRESS (May 27, 2020, 5:18 PM), <https://www.daily-press.com/news/environment/dp-nw-skiffes-challenge-20200527-h72vaippirhddf2i4lwvx-nra3e-story.html> [<https://perma.cc/7YUS-UTQZ>].

³⁸⁰ Sarah Vogelsong, *Will It Stay or Will It Go? After Court Ruling, Fate of Dominion's James River Transmission Line Is Uncertain*, VA. MERCURY (June 18, 2019, 10:59 PM), <https://www.virginiamercury.com/2019/06/18/will-it-stay-or-will-it-go-after-court-ruling-fate-of-dominions-james-river-transmission-line-is-uncertain/> [<https://perma.cc/M6FK-Z9W7>].

³⁸¹ Gregory S. Schneider, *Feds Reconsidering Permit for Power Lines near Jamestown, but There's a Hitch: They're Already Built*, WASH. POST (July 18, 2019), https://www.washingtonpost.com/local/virginia-politics/feds-reconsidering-permit-for-power-lines-near-historic-jamestown-but-theres-a-hitch-theyre-already-built/2019/07/18/7c46a09a-a8af-11e9-a3a6-ab670962db05_story.html [<https://perma.cc/TX3A-XCXC>].

³⁸² Sarah Vogelsong, *'Can't Ignore Reality': Army Corp Grapples with After-the-Fact Assessment of James River Power Lines*, VA. MERCURY (July 19, 2019, 11:13 AM), <https://www.virginiamercury.com/2019/07/19/cant-ignore-reality-army-corps-grapples-with-after-the-fact-assessment-of-james-river-power-lines/> [<https://perma.cc/9LZ4-FRHL>].

³⁸³ Dave Ress, *Controversial Power Line Across James River Had No Better Alternative, Corps of Engineers Review Says*, DAILY PRESS (Dec. 1, 2020, 4:44 PM), <https://www.daily-press.com/news/environment/dp-nw-skiffes-creek-eis-20201201-qjiwfdjvdna2dp6xsddzn4j7ma-story.html#:~:text=Environment-,Controversial%20power%20line%20across%20James%20River%20had%20no%20better,Corps%20of%20Engineers%20review%20says&text=The%20federal%20judge%20who%20heard,do%20the%20detailed%20environmental%20study> [<https://perma.cc/D2QA-SAZL>].

\$90 million in mitigation funds came to state and conservation agencies to make up for the harm from the project.³⁸⁴ Chickahominy land acquisition served to channel mitigation money from the private sector to state coffers.³⁸⁵ Although these purchases conserve lands of historical importance,³⁸⁶ government agencies control resource management and the state is not returning sovereign land to the Chickahominy.³⁸⁷ Instead, territory held symbolically for the Chickahominy allows Dominion Energy to be the patron, and state agencies continue as paternalistic benefactors. The state creates and controls the narrative, for now. Indigenous Peoples in other locations and potentially in Virginia demand their land back.³⁸⁸ The Chickahominy Tribe could someday seek to be relocated from the polluted zone where the majority reside. In the context of international code found in the UN Declaration on the Rights of Indigenous Peoples, free, prior, and informed consent ("FPIC") was not available.³⁸⁹

³⁸⁴ The Virginia Department of Conservation and Recreation received \$25 million for projects to improve the Captain John Smith Chesapeake National Historic Trail. Dominion provided \$15.6 million to the Virginia Environmental Endowment for water quality improvements in the project area. The Virginia Land Conservation Foundation received \$12.5 million for land conservation and open space easement projects. The Virginia Department of Game and Inland Fisheries received \$4.2 million to enhance natural resources and historic interpretation at Hog Island and Chickahominy wildlife management areas. *See generally* Jack Jacobs, *Dominion's Mitigation Plan for Surry-Skiffes Creek Transmission Line Continues*, TCA REGIONAL NEWS (Mar. 9, 2018, 6:00 PM), <https://www.daily-press.com/virginiagazette/news/va-vg-skiffes-creek-lines-mitigation-0310-story.html> [<https://perma.cc/C4JW-BXXK>].

³⁸⁵ Tribal governments have historically been shut out from access to state grants in Virginia due to restrictions in Code; currently tribal governments are only eligible recipients for Preservation Trust Fund grants from the Virginia Outdoors Foundation. *See* COMMISSION TO EXAMINE RACIAL AND ECONOMIC INEQUITY IN VIRGINIA LAW, SETTING A PATH FOR A MORE EQUITABLE COMMONWEALTH (Jan. 6, 2022), <https://web.archive.org/web/20220107213717/https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/Setting-a-Path-For-a-More-Equitable-Commonwealth.pdf> [<https://perma.cc/T98T-7FBQ>].

³⁸⁶ Evan Visconti, *Va. Native American Tribes Acquiring More Lands for Cultural and Environmental Preservation*, VA. MERCURY (Sept. 9, 2021, 12:02 AM), <https://www.virginiamercury.com/2021/09/09/va-native-american-tribes-acquiring-more-lands-for-cultural-and-environmental-preservation/> [<https://perma.cc/664A-YXZQ>].

³⁸⁷ Karen Gill, *Chickahominy Pipeline: Should We Trust Them?*, VA. MERCURY (Dec. 16, 2021, 12:03 AM), <https://www.virginiamercury.com/2021/12/16/chickahominy-pipeline-should-we-trust-them/> [<https://perma.cc/2QYC-2RLC>].

³⁸⁸ Harmeet Kaur, *Indigenous People Across the US Want Their Land Back—and the Movement Is Gaining Momentum*, CNN (Nov. 26, 2020, 6:24 PM), <https://www.cnn.com/2020/11/25/us/indigenous-people-reclaiming-their-lands-trnd/index.html> [<https://perma.cc/YW2Z-AX2T>].

³⁸⁹ *Indigenous Peoples—Pillars*, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED

The Chickahominy live in the pollution hotspot: the majority of the 850 members of the tribe³⁹⁰ reside near the Tribal Center and the Samaria Church, located proximate to a mega-landfill and industrial corridor.³⁹¹ Even after federal recognition in 2018,³⁹² the Chickahominy Tribal Council does not have co-management decision-making authority in the state's new protected areas.³⁹³ The land transfer was celebrated in the media and among conservation organizations as a return of ancestral lands.³⁹⁴ Although the state uses a narrative of inclusion, the protected area structure does not involve shared governance.³⁹⁵

Payments to the Chickahominy occurred as the tribe was undergoing the final stages of negotiation for federal recognition.³⁹⁶ The 1,650 Megawatt Chickahominy Power Station demonstrates impacts of neoliberal multiculturalism. As common with 'divide and conquer' or 'divide and rule' tactics, leaders from one group disempower others. Figure 6 shows the percentage of People of Color in the direct vicinity, particularly to the South.³⁹⁷ Neoliberal multiculturalism means those who support powerful actors to the expense of others also benefit when states and firms provide incentives, like large sums of money for mitigation, to conservation groups and tribes.³⁹⁸

NATIONS, <https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/> [https://perma.cc/HR8X-BVS7] (last visited Apr. 3, 2022).

³⁹⁰ *Community and Culture*, CHICKAHOMINY TRIBE, <https://www.chickahominytribe.org/culture-community> [https://perma.cc/M6DR-ZBTF] (last visited Apr. 3, 2022).

³⁹¹ *See id.* The Landfill is located at 8000 Chambers Rd., Charles City, VA 23030. The tribal center is located at 8200 Lott Cary Rd., Providence Forge, VA 23140. The properties are next to one another and not separated by any buildings.

³⁹² H.R. 984, 115th Cong. (2017) (enacted).

³⁹³ The site was purchased with the assistance of a \$3.18 million grant from the Virginia Land Conservation Foundation. The Virginia Outdoors Foundation, which holds an easement on the property, assisted the tribe with the grant application. The land will "create a location to showcase Chickahominy culture, history, and traditions." Jason McGarvey, *Chickahominy Tribe Celebrates Acquisition of Ancestral Land in Charles City*, VA. OUTDOORS FOUND. (Sept. 28, 2019), <https://www.vof.org/2019/09/28/chickahominy-tribe-celebrates-acquisition-of-ancestral-land-in-charles-city/> [https://perma.cc/VA48-J5WH].

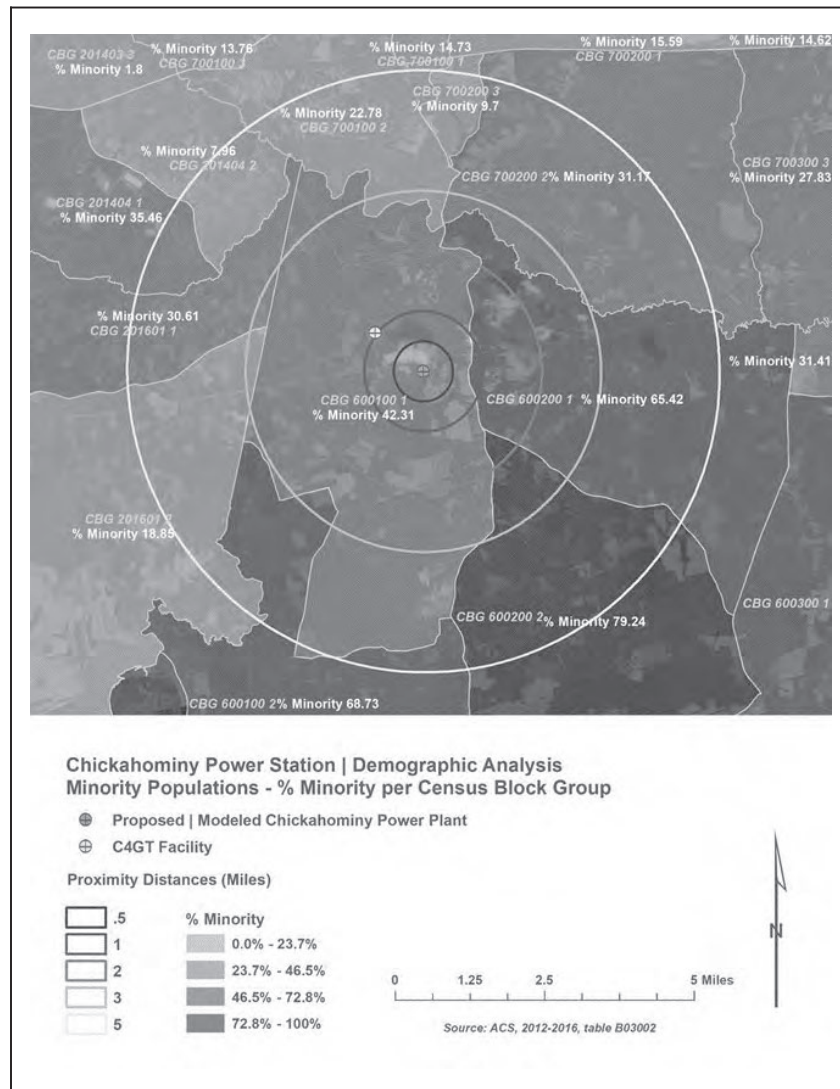
³⁹⁴ *Id.*

³⁹⁵ *Id.*

³⁹⁶ *See id.*

³⁹⁷ *See* Figure 6.

³⁹⁸ *See generally* Michael Kreiter, Neoliberal Multiculturalism: The Diversity That Divides Us (Apr. 15, 2013) (Student Presentation, Department of Sociology Boise State University), https://scholarworks.boisestate.edu/sspa_13/13/ [https://perma.cc/65EK-2WPM].

Figure 6: Vicinity of Charles City Gas Plants³⁹⁹

³⁹⁹ Stephen Metts, *Chickahominy Power Plant Proposal—Independent Spatial and Demographic Analyses Findings Statement*, 1, 5 (June 4, 2019), https://spatial-analysis-findings.s3.us-east-2.amazonaws.com/Independent+spatial+data+analyses+of+the+2019+Chickahominy+Power+Plant_6-4-19.pdf [<https://perma.cc/7P84-WDCC>].

Charles City permitting is often opaque, and certainly was with the Chickahominy and C4GT gas plants. County residents were largely unaware: only one county resident (white, male, with advanced educational degrees) saw the announcement for the Chickahominy station and attended the information session where Balico, LLC's representative could not answer questions about the plant emissions or control technology.⁴⁰⁰ The DEQ permit writer who also attended the session acknowledged in an internal memo that the process did not meet legal standards.⁴⁰¹ She recommended a new public information meeting if Balico continued with their application.⁴⁰² Her manager later decided that the stipulations were 'close enough,' and the permitting process advanced.⁴⁰³

A 2019 Air Board meeting where the permit for the Chickahominy Gas Plant was approved demonstrated structural inequalities. Located at a private hotel an hour away and held during work hours, the meeting was inaccessible to impacted residents.⁴⁰⁴ Several people from Charles City were not allowed to speak, as they had not participated in the initial comment period.⁴⁰⁵ Injustice surrounding the gas plants continued.⁴⁰⁶ Water permits addressed only a small portion of the project's overall use due to regulatory segmentation, such that each permit covers only a small part of a project.⁴⁰⁷

The COVID-19 pandemic intensified inaccessibility to public hearings for rural populations. There was a virtual hearing for the initial supply project for C4GT gas plant, despite poor internet coverage in a five-mile radius around the permitted and proposed gas plants, especially to the

⁴⁰⁰ Mary Finley-Brook, *The Hidden Power Behind the Chickahominy Gas Power Plant Proposal*, VA. MERCURY (Oct. 9, 2019, 12:01 AM), <https://www.virginiamercury.com/2019/10/09/the-hidden-power-behind-the-chickahominy-gas-power-plant-proposal/> [https://perma.cc/9PHA-PVJ8].

⁴⁰¹ *Id.*

⁴⁰² *Id.*

⁴⁰³ Sarah Vogel song, *Did Briefing on Proposed Charles City Gas Plant 'Come Close Enough' to Statutory Requirements?*, VA. MERCURY (June 19, 2019, 11:09 PM), <https://www.virginiamercury.com/2019/06/19/did-briefing-on-proposed-charles-city-gas-plant-come-close-enough-to-statutory-requirements/> [https://perma.cc/NTM2-BFBT].

⁴⁰⁴ Finley-Brook, *supra* note 400.

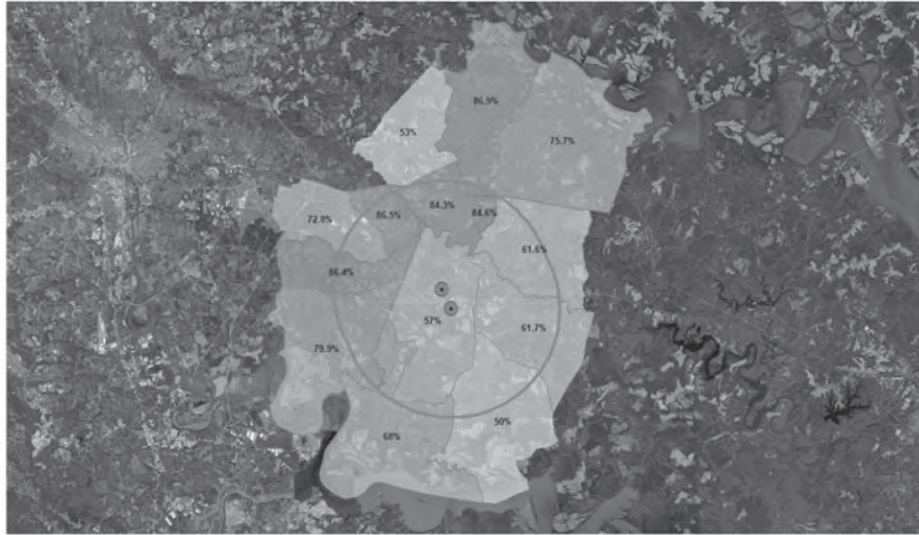
⁴⁰⁵ Beth Kreydatus, *Do We Want to Enable Fossil Fuel Amateurs?*, VA. MERCURY (May 11, 2021, 12:01 AM), <https://www.virginiamercury.com/2021/05/11/do-we-want-to-enable-fossil-fuel-amateurs/> [https://perma.cc/5NZB-C7S2].

⁴⁰⁶ *Id.*

⁴⁰⁷ While considered irrelevant to DEQ assessments, regional water overuse concerned public testifiers, who drew on the context of drawdown of the Potomac River watershed such that recharge of the aquifer is under threat, as well as a near-universal need to reduce the water usage of power plants. *Id.*

southeast where the highest percent of People of Color reside.⁴⁰⁸ Internet coverage in Figure 7 depicts use of an internet provider.⁴⁰⁹

Figure 7: Rates of Internet Coverage Surrounding Gas Plants⁴¹⁰



None of the assessments of Chickahominy Power took into consideration cumulative impacts over time, with historical burdens as well as new exposures. None of this hotspot development is people-centered. In contrast, see an example of the community centered Green Job Work-center, discussed in Part IV.⁴¹¹

INGENCO argues that their offsets require less land than solar, are less expensive than solar with batteries, and do not require deforestation or biodiversity destruction.⁴¹² While such assessments are partially accurate, there should not be segmentation from the larger highly destructive

⁴⁰⁸ *Id.*; see Figure 6.

⁴⁰⁹ See Figure 7. Households may still experience limitations from router speed, size/affordability of data plan, weather, or other conditions that could impact ability to comment at a virtual hearing during a window of time.

⁴¹⁰ Stephen Metts (illustration), in *Internet*, CONCERNED CITIZENS OF CHARLES CITY COUNTY (2021), <https://www.c5groupinform.com/internet> [<https://perma.cc/KE2N-6HGB>].

⁴¹¹ See discussion *infra* Part IV.

⁴¹² Esther Galan, *Landfill Gas to Energy: More Energy Per Square Foot. Battery Not Required*, LINKEDIN (July 6, 2021), <https://www.linkedin.com/pulse/landfill-gas-energy-more-per-square-foot-battery-required-galan/> [<https://perma.cc/P8TJ-43WH>].

landfill, due to the minimal effort in diverting waste from the landfill or clean emissions from generating the landfill gas energy. Biodiversity and human health impacts around landfills, and landfill gas plants with air and water emissions, cannot simply be ignored.⁴¹³

III. ANALYSIS OF MARKETS AND POWER

Environmental justice requires addressing the following core concerns.

A. *Scarcity Mindset*

Market-based limits feed a powerful ‘scarcity mindset’ hard to overcome. Yet budgetary constraints fundamentally relate to and emerge from power imbalance.⁴¹⁴ Chronically underfunded protective agencies have tight budgets precisely so they cannot meet their responsibilities.⁴¹⁵ Meanwhile, the state spends considerable money to enforce closed spaces at permit hearings.⁴¹⁶ For example, at the 2019 Air Board hearing during the approval of the Buckingham CS, dozens of officers were hired to control who had access and to remove audience members.⁴¹⁷ Yet even the

⁴¹³ The county’s agreement with Waste Management allows the company to limit responsibility for the project to twenty years after closure. *Id.* Landfill emissions continue, meaning INGenco may stay involved after Waste Management’s departure yet has no formal responsibility for mitigation.

⁴¹⁴ *Id.*

⁴¹⁵ These shortfalls exist at federal as well as state levels. A budget for FERC is negotiated between the industry and the agency without congress or the president involved. GREEN INVESTMENTS, HOW BUDGET CUTS ARE IMPACTING OUR COMMUNITIES AND THE ENVIRONMENT: THE CASE FOR REINVESTMENT IN FY17, DEFENDERS.ORG (Feb. 2016), <https://defenders.org/sites/default/files/publications/FY17-Green-Investments.pdf> [<https://perma.cc/VE3S-MNM4>]. In 1978, when Congress directed FERC to establish an Office of Public Participation (“OPP”), it inserted “when funds allow,” so despite repeated requests from consumer groups, the office was not created until 2020. While OPP now exists, it remains uncertain whether it will function effectively or yield results landowners and affected communities need. *About OPP*, FEDERAL ENERGY REGULATORY COMMISSION, <https://www.ferc.gov/OPP> [<https://perma.cc/PED3-BXKQ>] (last visited Apr. 3, 2022).

⁴¹⁶ Denise Lavoie, *Hissing, Shouts of ‘Shame’ as Pipeline Station Gets Permit*, PHILADELPHIA INQUIRER (Jan. 8, 2019), <https://www.inquirer.com/news/nation-world/hissing-shouts-shame-pipeline-station-gets-permit-20190108.html> [<https://perma.cc/7CH4-YWKR>]; Mechelle Hankerson, *Air Board Delays Decision on Buckingham Permit and Plans New Public Comment Period*, VA. MERCURY (Dec. 19, 2018, 4:18 PM), <https://www.virginiamercury.com/2018/12/19/air-board-delays-decision-on-buckingham-permit-and-plans-new-public-comment-period/> [<https://perma.cc/MS2U-7ULD>].

⁴¹⁷ The Air Board final hearing at a private hotel in Richmond involved an intimidating

location of hearings, often distant from impacted areas, supposedly to contain costs for the agencies with staff involved, makes participation by impacted local populations more challenging.

Testimonies from impacted community members based on extensive local knowledge do not fit with state methods structured specifically to reduce DEQ staff time and effort (e.g., use of remote detection and computer modeling instead of the more expensive and more time consuming baseline field sampling or household surveys). Rural residents requesting information are frequently told by DEQ staff to find permitting information on the web.⁴¹⁸ Even if they have reliable access to the internet, material online exists only in advanced technical language that is not legible by much of the public.⁴¹⁹ Meanwhile, during the process for permitting the C4GT and Chickahominy gas plants in Charles City permitting, DEQ permit writers log hundreds of hours for months or even years, to assist a permit applicant, who has phone, email and other direct communication with DEQ on a regular basis, as shown with periodic Freedom of Information Act Requests.⁴²⁰

B. Structural Violence

Geographic areas where dangerous infrastructure is habitually located experience structural violence. Developers of interstate pipelines

level of state police presence; police removed anyone who spoke out in protest, which many were moved to do. Lavoie, *supra* note 416; Sarah Vogelsong, *After Several Years of Tumult, Air Board Members Reexamine Public Engagement Process*, VA. MERCURY (Aug. 3, 2020, 12:01 AM), <https://www.virginiamercury.com/2020/08/03/after-several-years-of-tumult-air-board-members-reexamine-public-engagement-process/> [https://perma.cc/AGN2-8ZGZ].

⁴¹⁸ Mary Finley-Brook, *Public Comment on Dominion Energy Buckingham Compressor Station Air Permit*, LETTER TO PIEDMONT REGIONAL OFFICE 3, https://www.friendsofbuckinghamva.org/friends/wp-content/uploads/2018/11/MaryFindley-Brook_EJ.pdf, [https://perma.cc/EFL2-8QP5]; see, e.g., *Permits*, VA. DEQ, <https://www.deq.virginia.gov/permits-regulations/permits> [https://perma.cc/63EW-5GDS] (last visited Apr. 3, 2022).

⁴¹⁹ See generally APPALACHIAN VOICES, FRIENDS OF BUCKINGHAM COUNTY, SIERRA CLUB VIRGINIA CHAPTER, SUMMARY OF PUBLIC COMMENTS TO THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AND AIR POLLUTION CONTROL BOARD ON THE DRAFT AIR PERMIT FOR THE PROPOSED BUCKINGHAM COMPRESSOR STATION (Nov. 2018) [hereinafter SUMMARY OF PUBLIC COMMENTS], <http://www.vcnva.org/wp-content/uploads/2018/11/Summary-of-Public-Comments-to-the-Virginia-Department-of-Environmental-Quality-.pdf> [https://perma.cc/4B92-UWSF] (providing summary of public comments from Virginians which focuses on thoughts of impacted community members).

⁴²⁰ Freedom of Information Act Requests (on file with author).

treat infrastructure host sites as expendable sacrifice zones located ‘in the way’ of moving gas from frack pads to markets. Pipeline developers subjugate rural places to deliver gas across long distances to urban, industrial and international markets, often without providing the rural areas with any benefit from the infrastructure.⁴²¹ They seek to provide the equivalent of interstate highways, with few off ramps.

The fossil fuel industry has developed a range of complex strategies to hedge against and resist transition to renewable energy sources,⁴²² to stop or slow safety enhancements, and to ensure it dominates citizens at every level of government.⁴²³ Climate science documenting the need to transition from fossil fuels has been resolved,⁴²⁴ but companies use incentives and mitigations as reasons to keep building,⁴²⁵ and promote ‘greenwashing,’ such as the hype about blue hydrogen—hydrogen produced from fossil gas—which can have a higher carbon footprint than using either gas or coal directly for heat, and is manipulated as something positive by gas companies.⁴²⁶ With the lowering costs of renewables

⁴²¹ For example, when Buckingham County businesses requested access to gas, the ACP suggest the county develop a strategy to recruit additional businesses instead of facilitating actual access. *How Pipelines Fuel Climate Injustice*, CLIMATE REALITY PROJECT (Oct. 1, 2019, 8:00 AM), <https://www.climatealityproject.org/blog/how-pipelines-fuel-climate-injustice> [<https://perma.cc/S7NS-9H7L>].

⁴²² Jessica F. Green et al., *Transition, Hedge, or Resist? Understanding Political and Economic Behavior toward Decarbonization in the Oil and Gas Industry*, REV. INT’L POLITICAL ECON. 1, 2 (2020).

⁴²³ *Id.*

⁴²⁴ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS 11 (2013).

⁴²⁵ An example of this is MVP offsets and mitigation payments. William Limpert, *Pipeline’s Carbon Offsets Don’t Come Close to Adding Up*, VA. MERCURY (July 28, 2021, 12:01 AM), <https://www.virginiamercury.com/2021/07/28/pipelines-carbon-offsets-don-t-come-close-to-adding-up/> [<https://perma.cc/SGS7-Y5JA>]; Carlos Anchondo, *Pipeline Goes CO2 Neutral: Innovative or Green Washing*, E&ENews (July 13, 2021, 5:53 AM), <https://www.eenews.net/articles/pipeline-goes-co2-neutral-innovative-or-green-washing/> [<https://perma.cc/A67D-6XWT>]; Laurence Hammack, *Forest Conservation Grants Awarded to Offset Mountain Valley Pipeline*, RICHMOND TIMES-DISPATCH (Sept. 30, 2019), https://richmond.com/forest-conservation-grants-awarded-to-offset-damage-from-mountain-valley-pipeline/article_bed1e458-b009-5c33-8eec-0d5c802adfe8.html?mode=comments [<https://perma.cc/V5UT-76F7>].

⁴²⁶ Hydrogen types are not the same: green hydrogen production is based on renewable sources, yellow hydrogen comes from nuclear energy, grey hydrogen from fossil fuels, and blue hydrogen specifically from fossil gas. National Grid, *The Hydrogen Colour Spectrum*, NATIONALGRID.COM, <https://www.nationalgrid.com/stories/energy-explained/hydrogen-colour-spectrum#:~:text=Green%20hydrogen%2C%20blue%20hydrogen%2C%20brown,be>

and newer market niche for businesses to tout sustainability, the range of offensive and defensive strategies expand as fossil fuel companies attempt to maintain dominance even as markets rapidly shift.⁴²⁷

Injustice emerges from several fronts and remains embedded in various aspects of public-private partnerships at all levels of government. Cumulative toxic burdens cause permanent degradation in sacrifice zones.⁴²⁸ New infrastructure is often sited in degraded areas compounding risk and harm. Early development was exempt from extensive regulatory review because environmental and civil rights protections did not exist.⁴²⁹ Regulations allow each project to be considered individually. Adding more risk and exposure to historic sites without adequately addressing that increased cumulative harm can create synergistic effects, meaning the sum of the whole is greater than each of the parts.⁴³⁰ There can be reactions between different toxic pollutants, or multiple exposures can harm the same organs of the body.⁴³¹ Placing new energy infrastructure (e.g., high pressure, flammable) proximate to aging infrastructure can amplify risk with a domino effect, such as a series of blasts or fires moving across co-located infrastructure.⁴³² For communities forced to host energy infrastructure, even the separation of federal roles—with FERC responsible for

tween%20the%20types%20of%20hydrogen [https://perma.cc/DT9A-W4G4] (last visited Apr. 3, 2022). Blue hydrogen starts with converting methane to hydrogen and carbon dioxide by using heat, steam, and pressure: the process takes a large amount of energy, usually provided by burning more gas. Robert W. Howarth & Mark Z. Jacobson, *How Green Is Blue Hydrogen?*, 9 ENERGY SCI. & ENG'G 1676, 1677 (2021).

⁴²⁷ Marco Grasso, *Oily Politics: A Critical Assessment of the Oil and Gas Industry's Contribution to Climate Change*, 50 ENERGY RSCH. & SOC. SCI. 106, 110 (2019).

⁴²⁸ Jo Guldi, *What Kind of Information Does the Era of Climate Change Require?*, 169 CLIMATIC CHANGE 1, 4, 13, 15 (2021); Robert D. Bullard & William J. Clinton, *Overcoming Racism in Environmental Decisionmaking*, 36 ENV'T 10, 13, 43 (1994).

⁴²⁹ Bullard & Clinton, *supra* note 428, at 15, 41, 43.

⁴³⁰ Robert Hunt Sprinkle & Devon C. Payne-Sturges, *Mixture Toxicity, Cumulative Risk, and Environmental Justice in United States Federal Policy, 1980–2016*, ENV'T HEALTH 1, 8, 13 (Sept. 17, 2021).

⁴³¹ John M. Balbus, *Implications of Global Climate Change for the Assessment and Management of Human Health Risks of Chemicals in the Natural Environment*, 32 ENV'T TOXICOLOGY & CHEMISTRY 62, 68 (2013); MARQUITA K. HILL, UNDERSTANDING ENVIRONMENTAL POLLUTION: A PRIMER 57–59, 65 (Cambridge Univ. Press 2004).

⁴³² Brent Burns, *Aging Pipeline Infrastructure in the United States: How do a Changing Policy Mix, Issues of Energy Justice, and Social Media Communication Impact Future Risk Analysis?* (2020) (Unpublished PhD Dissertation, Michigan Technological University), https://digitalcommons.mtu.edu/cgi/viewcontent.cgi?article=2164&context=etdr [https://perma.cc/XT5T-JRZD]; Farid Kadri et al., *The Assessment of Risk Caused by Fire and Exploitation*, 3 J. RISK ANALYSIS & CRISIS RESPONSE 66, 68–70 (2013).

oversight of building infrastructure and PHMSA responsible for oversight once pipelines are in operation—makes it difficult for communities to seek protection from pollution, explosions, and other harms.⁴³³

C. *Narrow Criteria*

Assessments tend to focus on measurable impacts for biodiversity or soil erosion, even when this is only a small portion of the overall impact.⁴³⁴ Based on the authors' personal experience, DEQ permit writers make minimal changes from draft to final permits, appearing to ignore public comments that do not support the draft.⁴³⁵ DEQ selects public health data and experts, even nationally controversial figures,⁴³⁶ to justify outmoded fuels like fossil fuels.⁴³⁷ For example, even in environmental justice communities, state rules do not require project proposers to conduct effective baseline health and safety studies before initiating these projects.⁴³⁸ Fence line monitoring is also poor to date: regional air

⁴³³ FINLEY-BROOK & METTS, *supra* note 150; U.S. DEP'T OF TRANSP., OFFICE OF PIPELINE SAFETY, PHMSA, <https://www.phmsa.dot.gov/about-phmsa/offices/office-pipeline-safety> [<https://perma.cc/8E8G-SRLA>] (last visited Apr. 3, 2022); FEDERAL ENERGY REGULATORY COMMISSION: STRATEGIC PLAN FY 2018–2022, at 9 (Sept. 2018).

⁴³⁴ See generally Qingdong Wang et al., *Susceptibility Assessment of Soil Erosion in Overlaying Diluvial Fan of Shallow Underground Principles*, 80 BULL. ENG'G GEOLOGY & ENV'T 2573 (2021).

⁴³⁵ David Sligh, *DEQ Ignores Its Duties, Again*, ENERGY + ENVIRONMENT (Dec. 8, 2020, 12:02 AM), <https://www.virginiamercury.com/2020/12/08/deq-ignores-its-duties-again/> [<https://perma.cc/HNR8-4JA7>].

⁴³⁶ See, for example, the repeated use of Dr. Laura Green as a public health expert in air permit decisions, which happened most recently with the Lambert CS. See LAURA C. GREEN & EDMUND A.C. CROUCH, PUBLIC HEALTH ASSESSMENT OF EXPECTED AIRBORNE EMISSIONS FROM THE PROPOSED LAMBERT COMPRESSOR STATION PITTSYLVANIA COUNTY, VIRGINIA, GREENTOXICOLOGY LLC (Feb. 2021), <https://www.deq.virginia.gov/home/showpublisheddocument/5324/637499573598370000> [<https://perma.cc/QY7U-YCMR>]. Green minimizes harm from particulate matter (PM 2.5), doing so in a public health webinar for Equitrans in advance of the MVP air permit hearing. Green's positions do not align with a recent Independent Particulate Matter Review Panel. Independent Particulate Matter Review Panel, *The Need for a Tighter Particulate-Matter Air-Quality Standard*, 388 NEW ENGLAND J. MED. 680, 680 (2020). As of late 2021, Dr. Green is no longer affiliated with the EPA. Ariel Wittenberg & E. A. Crunden, *EPA-Linked Consultant Undercuts Agency's PFAS Concerns*, E&ENews (Dec. 8, 2021, 1:26 PM), <https://www.eenews.net/articles/epa-linked-consultant-undercuts-agencys-pfas-concerns/> [<https://perma.cc/442C-C9MQ>].

⁴³⁷ See, e.g., Wittenberg & Crunden, *supra* note 436.

⁴³⁸ Joshua Ozymy & Melissa L. Jarrell, *Of Sex Crimes and Fencelines: How Recognition of Environmental Justice Communities as Crime Victims Under State and Federal Law Can Help Secure Environmental Justice*, 38 PACE ENV'T L. REV. 109, 109, 115 (2020).

pollution monitors cannot adequately document changes in air quality for affected landowners and communities.⁴³⁹ Often, even required ongoing data collection is limited, with the lack of data then being used to delay or avoid action. Currently, measurement of methane released by fossil gas infrastructure and procedures is not required.⁴⁴⁰ If no data is available, industry is allowed to self-regulate.

D. *Regulatory Bias*

It is assumed that infrastructure, even energy and waste related, provides benefits.⁴⁴¹ Both federal and state agencies minimize information from independent experts and the public during review of comments,⁴⁴² meaning evidence is skewed to overemphasize potential or implied benefits and ignore harms. For both the ACP and the MVP, community funded studies documented that harms were not included in the FERC Draft Environmental Impact Statements.⁴⁴³ However, the Final Environmental Impact Statements ignored these findings and contained only industry provided information.⁴⁴⁴

⁴³⁹ For example, Dr. Thurston and other national medical experts on compressor stations note that toxic emissions of formaldehyde from fuels are not fully combustible; these can be highly toxic although only lasting for short times near the facility. *See* Farah, *supra* note 285. The health effects of these emissions do not register accurately on distant monitors. *Id.*

⁴⁴⁰ BIPARTISAN POLICY CENTER, NATURAL GAS INFRASTRUCTURE AND METHANE EMISSIONS 5 (Sept. 2014), <https://bipartisanpolicy.org/report/natural-gas-infrastructure-and-methane-emissions/> [<https://perma.cc/LYU4-34BN>].

⁴⁴¹ Jeremy O'Brien, *The Economic Development Benefits of Waste-to-Energy Facilities—Part 1*, MSW MGMT. (Oct. 21, 2015), <https://www.mswmanagement.com/landfills/article/13020283/the-economic-development-benefits-of-wastetoenergy-facilities-part-1> [<https://perma.cc/4VXQ-EN94>].

⁴⁴² Adam Looney, *How to Effectively Comment on Regulations*, CTR. ON REGUL. & MKTS. OF BROOKINGS (Aug. 2018), https://www.brookings.edu/wp-content/uploads/2018/08/ES_20180809_RegComments.pdf [<https://perma.cc/7WZ2-U6PQ>].

⁴⁴³ *Draft Environmental Impact Statement—Atlantic Coast Pipeline, LLC, Dominion Transmission, Inc. and Atlantic and Piedmont Natural Gas. Co.*, FERC (Dec. 30, 2016), <https://www.ferc.gov/draft-environmental-impact-statement-atlantic-coast-pipeline-llc-dominion-transmission-inc-and> [<https://perma.cc/GUN9-PMN6>]; FEDERAL ENERGY GUIDELINES: FERC REPORTS (FERC), DRAFT ENVIRONMENTAL IMPACT STATEMENT—MOUNTAIN VALLEY PROJECT AND EQUITRANS EXPANSION PROJECT 3–4 (Sept. 16, 2016), <https://www.ferc.gov/sites/default/files/2020-05/DEISMVP.pdf> [<https://perma.cc/N4S7-7WMD>].

⁴⁴⁴ *Final Environmental Impact Statement—Atlantic Coast Pipeline and Supply Header Project*, FERC (July 21, 2017), <https://www.ferc.gov/final-environmental-impact-statement-atlantic-coast-pipeline-and-supply-header-project> [<https://perma.cc/8KVX-BJLM>]. *Final*

Agencies are subject to industry pressure for rapid approvals and resistance to added expenses for safeguards like community participatory baseline data research or fence-line monitoring.⁴⁴⁵ The revolving door between FERC and the industry is well documented.⁴⁴⁶ While the new FERC Office of Public Participation is finally under development, there are many advantages for industry over landowners and ratepayers in the agency processes and system. Even PHMSA is mired in procedures that allow industry to delay, water down, and obstruct safety.⁴⁴⁷ Too often conflicts of interests occur; regulators come to see themselves as part of a public-private corporate partnership team with closeness suggesting a captured regulatory agency.

E. Blurring of Microgeographies; Hotspots

Regulatory agencies tend to average the specifics of the microgeography selected for siting a project into broader trends, so they do not appear to require action. DEQ staff pointed out at hearings for two of our cases that the rural air is so clean that the communities can ‘afford’ to increase emissions without harming health.⁴⁴⁸ Buckingham County residents concerned about the ACP were repeatedly told this, ignoring the usually high 200 miles between compressor stations which would have resulted in a large system with emissions highest for those close by.⁴⁴⁹ In the second case, in Chatham, there were two existing compressor stations

Environmental Impact Statement—Mountain Valley Project and Equitrans Expansion Project, FERC (June 23, 2017), <https://www.ferc.gov/final-environmental-impact-statement-mountain-valley-project-and-equitrans-expansion-project> [https://perma.cc/K8WH-TD47].

⁴⁴⁵ Nick Snow, *US Should Address Gas Pipeline Decision-Making Delays, IEA Recommends*, OIL & GAS J. (Sept. 13, 2019), <https://www.ogj.com/general-interest/article/14039929/us-should-address-gas-pipeline-decisionmaking-delays-iea-recommends> [https://perma.cc/3HCP-B988].

⁴⁴⁶ See *Investigation Exposes Revolving Door Between Fossil Fuel Lobbyists and Politicians*, ECOWATCH (Nov. 20, 2014, 5:56 AM), <https://www.ecowatch.com/investigation-exposes-revolving-door-between-fossil-fuel-lobbyists-and-1881974477.html> [https://perma.cc/K75J-ESBB]; Derek Seidman, *FERC Revolving Door Continues as Top Lawyer Leaves for Fossil Fuel Lobbying Firm*, EYES ON THE TIES (Apr. 9, 2018), <https://news.littlesis.org/2018/04/09/ferc-revolving-door-continues-as-top-lawyer-leaves-for-fossil-fuel-lobbying-firm/> [https://perma.cc/X4R8-932U].

⁴⁴⁷ See generally PHMSA, PIPELINE SAFETY ENFORCEMENT PROCEDURES 1, 2 (2019), <https://www.phmsa.dot.gov/pipeline/enforcement/pipeline-enforcement-procedures> [https://perma.cc/6427-SEMZ].

⁴⁴⁸ VA. DEQ, MOUNTAIN VALLEY PIPELINE LLC, LAMBERT COMPRESSOR STATION—ARTICLE 6 DRAFT PERMIT: RESPONSE TO PUBLIC COMMENTS (June 16, 2021).

⁴⁴⁹ See SUMMARY OF PUBLIC COMMENTS, *supra* note 419.

and high existing rates of adult asthma.⁴⁵⁰ Yet regulators declared that there were no negative impacts.⁴⁵¹

F. Political and Policy Failure

Regulatory oversight is far poorer in remote and low-income areas.⁴⁵² Rural hotspots can be difficult for policymakers to relate to; they are often nested in picturesque landscapes associated with tourism and leisure. Physical distance from urban politicians and voters causes lack of understanding of legacies of extraction and depositing/dumping with different forms of pollution than what was granted permits for discrete economic activities, such as metals mining, clear-cut logging, industrial farming, and landfills.⁴⁵³ In recent years many rural areas have lost even the minimal public media coverage historically available.⁴⁵⁴

The farther from impacted individuals and properties policymakers and regulators are, the less they intuitively understand about the situations.⁴⁵⁵ For example, in 2021 FERC staff collecting information from affected citizens to establish the Office of Public Participation said that they expected all landowners had legal advice and support when dealing with easements.⁴⁵⁶ However, study of the easements filed in Buckingham County for the ACP revealed that the majority were ACP-provided models, with

⁴⁵⁰ GREEN & CROUCH, *supra* note 436, at 1; DANVILLE-PITTSYLVANIA COMMUNITY HEALTH NEEDS ASSESSMENT, THE HEALTH COLLABORATIVE 48–49 (2016–2017), https://www.thehealthcollab.com/content/thehealthcollab/uploads/PDF/2017_danville_pittsylvania_county_community_health_needs_assessment.pdf [<https://perma.cc/KW9R-EK36>].

⁴⁵¹ GREEN & CROUCH, *supra* note 436, at 4–6.

⁴⁵² EPA, GUIDANCE ON CONSIDERING ENVIRONMENTAL JUSTICE DURING THE DEVELOPMENT OF REGULATORY ACTIONS E-1, E-2, E-3 (May 2015).

⁴⁵³ *Id.*

⁴⁵⁴ About a decade ago the Richmond Times Dispatch redefined its service area, stopping with Cumberland County even though no other major newspaper covered Buckingham. April Simpson, *As Local News Outlets Shutter, Rural America Suffers Most*, STATELINE (Oct. 21, 2019), <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2019/10/21/as-local-news-outlets-shutter-rural-america-suffers-most> [<https://perma.cc/EV5M-6RZ6>]. The area lost its longtime local radio station, WFLO in nearby Farmville at the end of 2021 because it could no longer fund its operations. Caroline Coleburn, *Farmville Radio Station WFLO Signs Off After 75 Years*, WTRV (Dec. 31, 2021, 6:00 PM), <https://www.wtvr.com/news/local-news/farmville-radio-station-wflo-signs-off-after-75-years> [<https://perma.cc/4SXQ-WPLV>]. These changes mean neither the local people nor decision-makers get information about what is happening in this rural community.

⁴⁵⁵ Valerie L. Chartier-Hogancamp, *Fairness and Justice: Discrepancies in Eminent Domain for Oil and Natural Gas Pipelines*, 49 TEX. ENV'T L.J. 67, 94–96 (2019).

⁴⁵⁶ FEDERAL ENERGY GUIDELINES: FERC REPORTS (FERC), REPORT ON THE OFFICE OF PUBLIC PARTICIPATION 5, 8, 16 (2021).

few modifications.⁴⁵⁷ Land agents routinely discourage use of attorneys, and few rural people have much experience with attorneys or the processes used for these projects.⁴⁵⁸ Landowners do not seek to be targeted for infrastructure and often do not have much time or money to spend on a process that will not be reimbursed.⁴⁵⁹ When affected land is in a portion of the property regularly used, such as a farmer who crosses the area frequently, the easement must be top of mind every day.⁴⁶⁰

Most landowners receive minimal funds,⁴⁶¹ as Irene Leech documented with easements signed by Buckingham County residents along the ACP.⁴⁶² Landowners pay federal and state income taxes on this money and are continuously responsible for paying local property taxes, even on the land contained in the easement.⁴⁶³ Demonstrating the structural violence in the process, if there are disagreements between the company and landowners, a landowner's only recourse is the courts, an expense few small rural landowners can afford.⁴⁶⁴ Companies are not required to

⁴⁵⁷ Irene E. Leech, *Modernizing Eminent Domain in the United States* (May 18–20, 2021), <https://acciconference2021.sched.com/event/3115634b03e71b62a6e069b54c717324> [<https://perma.cc/PJY3-JEB6>] (presentation at the 2021 ACCI conference).

⁴⁵⁸ *Id.*

⁴⁵⁹ Eminent domain requires landowners be compensated for verifiable lost value of land, not considering costs to attempt to avoid signing an easement or long-term losses from permanent limitations on use of that land. *Id.*

⁴⁶⁰ Easement agreements strongly emphasize that landowners surrender first decision making authority and cannot take any actions that harm the company's use of property. *Understanding Eminent Domain*, SIERRA CLUB (Sept. 1, 2018), <https://www.sierraclub.org/iowa/blog/2018/09/understanding-eminant-domain-and-easements> [<https://perma.cc/768H-MEQL>]. Landowners are prohibited from even placing temporary tents on the easement, or parking equipment on it. Leech, *supra* note 457.

⁴⁶¹ SUZANNE MATTEI & TOM SANZILLO, INST. ENERGY ECON. & FIN. ANALYSIS, FERC'S FAILURE TO ANALYZE ENERGY MARKET FORCES: RISKS TO RATEPAYERS, LANDOWNERS AND THE OVERALL ECONOMY 1, 26–27 (Dec. 2020), https://ieefa.org/wp-content/uploads/2020/12/FERCs-Failure-to-Analyze-Energy-Market-Forces_December-2020.pdf [<https://perma.cc/93P7-JLHB>].

⁴⁶² See generally Leech, *supra* note 457. The range of compensation for landowners was \$163–\$300,337, with a mean of \$2,600 and a mode of \$163. *Id.*

⁴⁶³ *Id.*

⁴⁶⁴ When companies seek to use land, landowners have little leverage to negotiate where within their land it is placed. Review of the Buckingham easements revealed that more often than not, the pipeline was routed through the middle of each tract. *Id.* Since there are no enforceable minimum distances required between pipelines and buildings or other features, many landowners end up with their homes in the most dangerous blast zone, where everything is likely to be destroyed if an explosion were to occur. Kate Blystone, *New Natural Gas Pipelines and Proximity to Homes*, PIPELINE SAFETY TRUST (Jan. 12, 2015), <https://pstrust.org/new-natural-gas-pipelines-and-proximity-to-homes/> [<https://perma.cc/75JQ-WR65>].

set aside funds to compensate landowners if a disaster occurs: the entities that own this infrastructure are set up as limited liability companies to protect their parent companies.⁴⁶⁵ Even when a pipeline is cancelled, energy companies are not expected to return the easements to landowners: FERC asserts that it lacks authority to require Dominion Energy to return easements following ACP cancellation.⁴⁶⁶

G. *Local Government Inexperience*

With limited resources, these rural local governments do not have existing staff to provide expensive intensive oversight of such projects. Often industry 'helps' them establish procedures and navigate processes inherently disadvantageous to local residents.⁴⁶⁷ County Boards of Supervisors eager to attract investment and taxes for their communities and with limited technical training and experience may not see through the disinformation provided by these industries—often putting local governments at odds with those they are elected to serve. Companies convince local supervisors to rezone from forestry or agricultural to heavy industrial uses with toxic polluting facilities, while necessary safeguards are missing.⁴⁶⁸ Companies entice with civic donations to encourage politicians to

⁴⁶⁵ See *Dominion Resources Inc. Subsidiaries of the Registrant*, U.S. SEC. EXCH. COMM'N, <https://www.sec.gov/Archives/edgar/data/715957/000119312505038704/dex21.htm> [<https://perma.cc/JA6R-K49L>] (last visited Apr. 3, 2022).

⁴⁶⁶ If eminent domain is used to claim property for a public use, landowners should be able to recover it if it is not used. Easements have not routinely addressed the issue of what happens if a project is cancelled. Carolyn Elefant, *Many Happy Returns? A Motto That's Not Necessarily True for Landowners When a FERC Pipeline Is Cancelled*, LINKEDIN (July 20, 2020), <https://www.linkedin.com/pulse/many-happy-returns-motto-thats-necessarily-true-when-ferc-elefant/> [<https://perma.cc/936D-UDBJ>].

⁴⁶⁷ Buckingham's Board of Supervisors Chair at the beginning of the ACP was a long-term employee of Dominion Energy. See Irene E. Leech, *Are Rural Counties Now Considered Expendable?*, ROANOKE TIMES (June 29, 2015), https://roanoke.com/opinion/leech-are-rural-counties-now-considered-expendable/article_a4df1752-8a7d-50eb-bb44-64c886bb305b.html [<https://perma.cc/H56D-XTFJ>]. He led the Board to approve a resolution of support for the project before residents were even aware of the project. See *id.* When they became aware and requested that the resolution be rescinded, the Board refused. See *id.* New rules for public participation severely limited actual participation. See *id.*

⁴⁶⁸ See, e.g., Whitney Turner, *Large Turnout in Opposition to Dominion Zoning Permit Proposal*, WHSV (Jan. 4, 2018, 6:00 PM), <https://www.whsv.com/content/news/Large-turn-out-in-opposition-to-Dominion-zoning-permit-proposal--468078473.html> [<https://perma.cc/C3ZF-36F2>]; *Augusta Board of Zoning Appeals—Dominion Request for Special Use Permit*, FRIENDS OF NELSON COUNTY, <http://friendsofnelson.com/calendar-event/augusta-board-of-zoning-appeals-dominion-request-for-special-use-permit/> [<https://perma.cc/B9U4-L3P8>] (last visited Apr. 3, 2022).

support economic development, with promises of corporate tax revenues in low-wealth counties.⁴⁶⁹ Company representatives work closely with inexperienced local government officials, helping them navigate the required processes and influencing the information sources officials pay attention to or ignore. Inexperience in negotiating with powerful firms proves costly in terms of public health, infrastructure damage, and unexpected expenses.

H. *Incomplete Environmental Justice Practice*

Prior to the 1970s, state assessments of social and environmental impacts were absent or superficial.⁴⁷⁰ Adding infrastructure in degraded areas means forcing low-wealth communities to accept more pollution and more risks. Even as environmental justice norms have developed, grave weaknesses continue. Evidence seems rigorous, but industry continues to try to ignore environmental justice: Equitrans paid outside consultants to produce partial data and then twisted the findings to try to support having completed environmental justice review to regulatory agencies.⁴⁷¹ They did this even after the Union Hill permit was overturned in the courts because of similar misrepresentations.⁴⁷² The MVP air permit hearing in 2021 demonstrated that five environmental justice communities were located in proximity to the proposed Chatham CS site and some of these communities were not contacted during the process.⁴⁷³ DEQ found the permitting process failed to conform to the 2020 EJ Act, and yet recommended the permit be approved, as did two Air Board members.⁴⁷⁴ One later reversed his vote and opposed the project; he was

⁴⁶⁹ See, e.g., Emily Hollingsworth, *\$5M Package Proposed by ACP*, FARMVILLE HERALD (Dec. 31, 2018, 11:10 AM), <https://www.farmvilleherald.com/2018/12/5m-package-proposed-by-acp/> [<https://perma.cc/SNZ6-UHSZ>].

⁴⁷⁰ See Richard K. Morgan, *Environmental Impact Assessment: The State of the Art*, 30 IMPACT ASSESSMENT & PROJECT APPRAISAL 5, 5 (2012).

⁴⁷¹ MVP first hired one anthropologist and misrepresented her findings and then replaced her with another anthropologist consultant just prior to the Air Board hearing. Virginia DEQ, *State Air Pollution Control Meeting—Day 1—Dec. 2–3, 2021*, YOUTUBE (Dec. 2, 2021), <https://www.youtube.com/watch?v=SnRAbBgh628> [<https://perma.cc/256G-2ZYT>].

⁴⁷² See Kevin Ridder, *MVP Ordered to Halt Work, Buckingham Gets Day in Court*, APPALACHIAN VOICE (Dec. 16, 2019), <https://appvoices.org/2019/12/16/mvp-ordered-to-halt-work-buckingham-gets-day-in-court/> [<https://perma.cc/TU65-UPVB>].

⁴⁷³ A.J. O'Leary, *Permit Denied for Mountain Valley Pipeline Component Planned for Pittsylvania County*, CHATHAM STAR TRIB. (Dec. 7, 2021), https://www.chathamstartribune.com/news/article_7a70e142-54b3-11ec-8dd6-8f131894eb85.html [<https://perma.cc/9EKL-5WSS>].

⁴⁷⁴ Patrick Larsen, *Mountain Valley Pipeline Receives Initial Permission to Cross Virginia*

sued by Equitrans along with the other Board members and two DEQ administrators.⁴⁷⁵ As Virginia installs a new Republican governor, lieutenant governor, and attorney general in early 2022, it remains to be seen how environmental justice law will be enforced in the future; there is concern that interpretation will change.⁴⁷⁶ The EJ Act was necessary to expose practices of discrimination, but the new code needs guidelines akin to those needed to enforce NEPA's environmental justice reviews—as rule-makers lack direction on how to apply this law to new pollution sites and expansions of original projects, like the Charles City landfill. Agencies seem unsure for whom and how it will be triggered, since there is no definition of what constitutes 'front line community.'⁴⁷⁷

I. *Industry Disinformation*

Industry is allowed considerable leeway to define Best Available Control Technology ("BACT") (e.g., average of the top twelve percent) and considers cost and past adaptation of technology more than outcome.⁴⁷⁸ O&G companies take advantage of confusion about pollution to create 'blindness,' a non-view so to speak, regarding exposure pathways of pollutants and effects of toxicity.⁴⁷⁹ O&G industry spreads disinformation through 'ad-itorials,' infomercials, paid research, hired consultancy reports, industry think tanks, and astroturf groups.⁴⁸⁰ When defining what meets regulatory

Waters, VPM NPR (Dec. 14, 2021, 3:24 AM), <https://vpm.org/news/articles/27950/mountain-valley-pipeline-receives-initial-permission-to-cross-virginia-waters> [https://perma.cc/5HB2-3XYQ]; Sarah Vogelsong, *Virginia Regulatory Board Denies Mountain Valley Pipeline Compressor Station Permit*, VA. MERCURY (Dec. 3, 2021, 2:48 PM), <https://www.virginiamercury.com/2021/12/03/virginia-regulatory-board-denies-mountain-valley-pipeline-compressor-station-permit/> [https://perma.cc/A7E2-L52D].

⁴⁷⁵ See Rose Krebs, *EQM Stakeholder Seeks to Halt \$1.8B Equitrans Merger*, LAW360, <https://www.law360.com/articles/1259252/eqm-stakeholder-seeks-to-halt-1-8b-equitrans-merger> [https://perma.cc/KV9X-4W36]; Vogelsong, *supra* note 474.

⁴⁷⁶ Jake Moore, *Youngkin Threatens Virginia's Climate Resilience and Environmental Justice Gains*, PROGRESSIVE REFORM (Feb. 1, 2022), <http://progressivereform.org/cpr-blog/youngkin-threatens-virginias-climate-resilience-and-environmental-justice-gains/> [https://perma.cc/X4XA-2W84].

⁴⁷⁷ See Virginia Environmental Justice Act, VA. CODE ANN. § 2.2-234 (2020).

⁴⁷⁸ MAX LIBOIRON, *POLLUTION IS COLONIALISM* 65–66 (Duke Univ. Press 2021). In the managerialism and bureaucratic violence that supports colonial energy, these negatives are ignored in the permitting process because regulatory processes tend to narrowly consider certain emissions or flows under one permit by one agency at a time.

⁴⁷⁹ Javier Auyero & Debora Swistun, *Confused Because Exposed: Towards an Ethnography of Environmental Suffering*, 8 ETHNOGRAPHY 123, 127 (2007).

⁴⁸⁰ See generally FINLEY-BROOK & METTS, *supra* note 150.

requirements, state agencies privilege industry claims of best in class technology.⁴⁸¹ For example, Chickahominy Power Plant was allowed to change the turbines without review, even though it would use unproven blue hydrogen technology potentially increasing air emissions and water use.⁴⁸²

J. Induced Scientific Indeterminacy

As a result of the combination of issues recently listed,⁴⁸³ impacted communities face creation of doubt. An example is the pattern known as *agnotology* (the production of ignorance)—deliberate manufacturing and dissemination of misinformation, as occurred with industry opposition to labels on cigarettes and fast food, student and professional athletes left unprotected from concussions, denial of climate change, promotion of white supremacy, and other current examples.⁴⁸⁴ Agnotology interferes with society's ability to make informed decisions.⁴⁸⁵ Solutions need to address disinformation and create spaces for new forms of praxis.

IV. PATHWAYS TO JUSTICE

A celebratory aspect of the current situation is the solidification of environmental justice movements with a large number of important gains, as discussed in the illustrated cases.⁴⁸⁶ Successes with overturning pollution permits have been achieved by: countering applicant generated data using replicable scientific methods to arrive at site-specific facts;⁴⁸⁷ MVP litigation;⁴⁸⁸ and educational lessons called 'pipeline pedagogy.'⁴⁸⁹

⁴⁸¹ EPA develops standards for controlling the emissions of air toxics from sources in an industry group: these maximum achievable control technology ("MACT") standards are emissions levels that are already being achieved by the controlled and low-emitting sources in an industry. *Reducing Emissions of Hazardous Air Pollutants*, EPA, <https://www.epa.gov/haps/reducing-emissions-hazardous-air-pollutants> [<https://perma.cc/9ARJ-SNUT>] (last visited Apr. 3, 2022).

⁴⁸² Mary Finley-Brook, *Halt Hydrogen Hype*, VA. MERCURY (Dec. 21, 2021, 12:02 AM), <https://www.virginiamercury.com/2021/12/21/halt-hydrogen-hype/> [<https://perma.cc/9WBK-88BJ>].

⁴⁸³ See discussion *supra* Sections III.A–I.

⁴⁸⁴ AGNOTOLOGY: THE MAKING AND UNMAKING OF IGNORANCE at vii, 11 (Robert N. Proctor & Londa Schiebinger eds., 2008).

⁴⁸⁵ See generally FINLEY-BROOK & METTS, *supra* note 150.

⁴⁸⁶ See discussion *infra* Sections IV.A–B.

⁴⁸⁷ See Vogel song, *supra* note 474.

⁴⁸⁸ Challenges are pending before an appellate court in Washington, D.C. Opponents

Justice-oriented proceedings occurred because of community expertise-led strategies that created fair impacts. The collaborations suggest the need for five key pathways forward.

A. *Equitable Economies, Resilient Spaces*

While grassroots solutions face unfair disadvantages, in part to structural violence, community based resistance to dirty, oppressive projects supports relationships necessary for co-production of more equitable futures. Grassroots initiatives are gaining momentum in Richmond and Buckingham, Pittsylvania, and Charles City Counties.⁴⁹⁰ Planning and raising funds for solar microgrids to increase resiliency, as structural violence can harm one's inability to withstand or recover from disturbance. Collective benefit as communities can attend to the past in a process organized in Black and Brown led organizations to transform hotspots from sites of extreme vulnerability to sites of transformation and resilience, even with climate change and extreme weather.⁴⁹¹ We must build a more equitable future in order to mitigate GHGs and adapt to climate impacts.

There is conflict over commercial-scale solar projects in all three sites,⁴⁹² and in many parts of Virginia.⁴⁹³ Instead of contributing to conflict,

question FERC's decisions in 2020 to lift a stop-work order, giving MVP more time to complete the project. Hammack, *supra* note 308.

⁴⁸⁹ Andreea Mihalache-O'Keef et al., *The Pipeline Case: Cross-Disciplinary Learning and Pedagogical Lessons from the Mountain Valley Pipeline*, in PIPELINE PEDAGOGY: TEACHING ABOUT ENERGY AND ENVIRONMENTAL JUSTICE CONTESTATIONS 13–32 (Valerie Banschbach & Jessica L. Rich, eds. 2021); Diana Christopulos, *Mountain Valley Pipeline: A Case Study in Local Resistance and Mobilization*, in PIPELINE PEDAGOGY: TEACHING ABOUT ENERGY AND ENVIRONMENTAL JUSTICE CONTESTATIONS 107–39 (Valerie Banschbach & Jessica L. Rich, eds. 2021).

⁴⁹⁰ McGowan, *supra* note 33.

⁴⁹¹ Mary Finley-Brook & E. L. Holloman, *Empowering Energy Justice*, 13 INT'L J. ENV'T RSCH. & PUB. HEALTH, 926, 941–42 (2016); J.C. Stephens, *Energy Democracy: Redistributing Power To the People through Renewable Transformation*, 61 ENV'T: SCI. & POL'Y FOR SUSTAINABLE DEV. 4, 8–9 (2019).

⁴⁹² Alexa Massey, *Hearing for Massive Solar Project in Buckingham Set*, FARMVILLE HERALD (Oct. 19, 2021, 6:00 AM), <https://www.farmvilleherald.com/2021/10/hearing-for-massive-solar-project-in-buckingham-set/> [https://perma.cc/6SHT-5Y3J]; John Crane, *In Climax, Tempers Flare over Solar Project*, DANVILLE REG. & BEE (Aug. 3, 2021), https://godanriver.com/news/local/watch-now-in-climax-tempers-flare-over-solar-project/article_74f8585e-f481-11eb-8a02-fbf14acf58df.html [https://perma.cc/7W8H-2NNT].

⁴⁹³ Sarah Vogel song, *One Year After Clean Economy Act's Passage, Solar Land Use Worries Linger*, VA. MERCURY (Feb. 1, 2021, 12:01 AM), <https://www.virginiamercury.com/2021/02/01/one-year-after-clean-economy-acts-passage-solar-land-use-worries-linger/> [https://perma.cc/6K5C-FGND].

community solar projects have the opportunity to prioritize local needs, which in this case is job creation and protecting the well-being of the most vulnerable populations (e.g., unemployed, low-wealth households, children, elderly, etc.).

1. Green Jobs Workcenter

Bridging the Gap in Virginia (“BTGIV”)⁴⁹⁴ and FLIPP, Inc. are collaborating on a Green Jobs Workcenter being developed to serve rural Buckingham County and surrounding areas.⁴⁹⁵ Interest in renewable energy stemmed equally from pragmatic workforce training needs for formerly incarcerated populations as well as the desire to produce clean energy while healing community rifts that emerged in Union Hill during the permitting of the ACP.⁴⁹⁶ Today BTGIV works with unemployed and underemployed people across Virginia with outreach in urban areas including Richmond and Hampton Roads, where diversity, equity, and inclusion are frequently overlooked in the green jobs sector.⁴⁹⁷ Meanwhile, the school-to-prison pipeline frequently means urban Black youth end up locked up in facilities in rural Virginia.⁴⁹⁸ BTGIV targets training, housing, and other support programs for people to successfully transition back into the community.⁴⁹⁹ This environmental justice work goes hand in hand with criminal justice reform and getting rights restored, after voting and other basic rights are stripped following felony convictions.⁵⁰⁰

⁴⁹⁴ *Workforce Development in Green Jobs*, BRIDGING THE GAP IN VIRGINIA (June 14, 2019), <http://www.bridgingthegapinvirginia.org/workforce-development-in-green-jobs.html> [https://perma.cc/Q7P7-D6RN] (last visited Apr. 3, 2022).

⁴⁹⁵ *Id.*

⁴⁹⁶ Elizabeth McGowan, *Solar Program Attempts to Bridge Rifts Left by Compressor Station Fight in Union Hill*, VA. MERCURY (July 2, 2019, 11:03 PM), <https://www.virginiamercury.com/2019/07/02/solar-program-attempts-to-bridge-rifts-left-by-compressor-station-fight-in-union-hill/> [https://perma.cc/G7TS-Q66F]; Elizabeth McGowan, *After Pipeline Feud, Virginia Nonprofit Aims to Reunite Community with Solar*, ENERGY NEWS NETWORK (June 20, 2020) [hereinafter McGowan II], <https://energynews.us/2019/06/20/after-pipeline-feud-virginia-nonprofit-aims-to-reunite-community-with-solar/> [https://perma.cc/H7E5-T6ZH].

⁴⁹⁷ McGowan II, *supra* note 496.

⁴⁹⁸ Christina Amano Dolan, *Panel Calls for Paradigm Shift in School-To-Prison Pipeline*, RVA MAG. (Mar. 24, 2021), <https://rvamag.com/politics/virginia-politics/panel-calls-for-paradigm-shift-in-virginia-school-to-prison-pipeline.html> [https://perma.cc/2CFU-BYD2].

⁴⁹⁹ McGowan II, *supra* note 496.

⁵⁰⁰ *See generally id.*

2. Barnett's Learning and Conceptual Complex ("BLACC")

Rooted in history, with C5's sponsoring BLACC at the building that was formerly used as a segregated elementary school in Charles City,⁵⁰¹ BLACC is a creative think tank developing a workforce development facility to assist in training People of Color and rural communities in green jobs.⁵⁰²

B. Citizen Science

Industry-generated data has been customarily privileged as 'fact' without question by federal and Virginia state agencies, with citizen science-generated site data and independent studies of environmental health impacts ignored within pollution permit approvals until the Air Board's six to one decision to deny the MVP Chatham CS air permit.⁵⁰³ The Board cited the legal precedent of the *Friends of Buckingham* case,⁵⁰⁴ an air permit overturned on the basis of environmental justice findings from the Union Hill community participatory research in a historic Black and Indigenous community.⁵⁰⁵ Because citizen science receives no agency,⁵⁰⁶ it is the authors' opinion that permits continue to be approved without these key community studies that provide data equity to regulatory processes prioritizing industry 'facts.'

It took a court case to expose the state's discriminatory practices, which the *Friends of Buckingham* case effectively dissected, detailing this

⁵⁰¹ Zoom Interview with La'Veesha Allen Rollins, Concerned Citizens of Charles City County (Mar. 22, 2022) (on file with author).

⁵⁰² *Id.*

⁵⁰³ *Victory for Environmental Justice: Mountain Valley Pipeline Compressor Station Permit Denied*, S. ENV'T L. CTR. (Dec. 6, 2021), <https://www.southernenvironment.org/news/victory-for-environmental-justice-mountain-valley-pipeline-compressor-station-permit-denied/> [<https://perma.cc/2XC4-VMJR>].

⁵⁰⁴ *Id.*

⁵⁰⁵ *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 86 (4th Cir. 2020).

⁵⁰⁶ See, e.g., Ann Bray, *Scientific Decision Making: A Barrier to Citizen Participation in Environmental Agency Decision Making*, 17 WM. MITCHELL L. REV. 1, 18 (1991). The authors of this piece have witnessed citizen science receiving no agency. For example, Chad Oba, President of Friends of Buckingham, collected seventy-one responses citing health and other concerns from neighbors around the CS location. Although she submitted this evidence to DEQ in 2015, the agency ignored her communication (records show they received it), and state agencies continued with an unsubstantiated narrative suggesting Union Hill was largely unpopulated.

form of structural violence and long customary practice. The state continues to allow ‘preferred site’ choices for toxic infrastructure to be in minority and low-income communities with histories of exploitation.⁵⁰⁷ Baseline assessments of community health and air, water, and soil resource quality are necessary before new permits are drafted and prior to any polluting site expansion. DEQ’s pollution monitoring systems are insufficient to detect actual levels of toxic emissions. DEQ has refused to conduct ‘site suitability’ community studies or baseline testing, forcing Union Hill and other communities to do so themselves so they have a way to prove damage at a future point.⁵⁰⁸

Buckingham County is presently being drilled for gold by Aston Bay Holdingson leases from Weyerhaeuser, the pulp paper giant.⁵⁰⁹ FOB continues its pioneering role in demanding evidence of the toxic polluting impacts of gold drilling and open-pit mining.⁵¹⁰ With allies, FOB has been instrumental in receiving legislative action: the National Academy of Sciences, Engineering, and Medicine will conduct a field study of open-pit mining and its environmental impacts,⁵¹¹ and a state-level workgroup will also review the issue, with the report due by late 2022.⁵¹² Press Pause Coalition⁵¹³ is newly formed to combat metals mining in three Virginia counties: Buckingham, Campbell, and Pittsylvania.⁵¹⁴

⁵⁰⁷ Travis L. Williams, *Resisting Technocratic Erasure*, 24 RACIAL CAPITALISM, July 2021, <https://magazine.scienceforthepeople.org/vol24-1-racial-capitalism/environmental-justice-resisting-technocratic-erasure/> [https://perma.cc/X587-FRJ9].

⁵⁰⁸ Heidi Dhivya Berthoud, *Baseline Testing for Well Water*, FRIENDS OF BUCKINGHAM (Apr. 28, 2018), <https://www.friendsofbuckinghamva.org/friends/baseline-testing-for-well-water/> [https://perma.cc/A5F7-JRC4].

⁵⁰⁹ Sarah Vogelsong, *Buckingham’s Next Environmental Fight? Maybe Gold Mining*, VA. MERCURY (Oct. 20, 2020, 12:01 AM), <https://www.virginiamercury.com/2020/10/20/buckingham-next-environmental-fight-maybe-gold-mining/> [https://perma.cc/R4V4-FJV7].

⁵¹⁰ *Id.*

⁵¹¹ Staff Report, *NAS Agrees to Study Gold Mining*, THE KENBRIDGE VICTORIA DISPATCH (Aug. 12, 2021, 8:29 AM), <https://www.kenbridgevictoriadispatch.com/2021/08/12/nas-agrees-to-study-gold-mining/> [https://perma.cc/LZ9A-TQQY].

⁵¹² Sarah Vogelsong, *Gold Mining Study Begins as Discoveries Continue in Virginia*, VA. MERCURY (Dec. 21, 2021, 12:01 AM), <https://www.virginiamercury.com/2021/12/21/gold-mining-study-begins-as-discoveries-continue-in-virginia/> [https://perma.cc/3C56-EGKL].

⁵¹³ Leanna Scachetti, *New Coalition Aims to Pause Permitting on Some Mining Operations in Virginia*, WDBJ 7 (Dec. 13, 2021, 5:38 PM), <https://www.wdbj7.com/2021/12/13/new-coalition-aims-pause-permitting-some-mining-operations-virginia/> [https://perma.cc/6R8W-ADCP].

⁵¹⁴ Dan Radmacher, *Coalition Formed to Protect Virginia from Metals Mining*, APPALACHIAN VOICES (Dec. 16, 2021), <https://appvoices.org/2021/12/16/coalition-formed-to-protect-virginia-from-metals-mining/> [https://perma.cc/UW3N-J6NY].

C. *Accountability Watchdogs*

Corporations can abuse eminent domain when given blanket protections.⁵¹⁵ Landowners are not on a level playing field with industry.⁵¹⁶ O&G regulations are full of opaque rules the public does not know and industry lawyers know how to finesse.⁵¹⁷

Communities receive information too late in the process currently.⁵¹⁸ This contributes to the landowner complaints of lack of transparency in decisions.⁵¹⁹ Elected officials have even pursued policy to add opaqueness, such as the 2017 HB 1678 from Delegate Roxann Robinson ("HD27") to qualify fracking chemicals as trade secrets to prevent access to information about the toxic components.⁵²⁰

Two examples of the VEJC leveraging invited spaces in increase accountability include: (1) the Policy Working Group that was instrumental in shaping bills like the 2020 EJ Act; and (2) the technical and advocacy support provided to burdened and vulnerable communities and families who face exposures without fair process.⁵²¹ Communities experience debilitating lack of information (e.g., need for data equity) and must respond quickly to highly technical information written in opaque language

⁵¹⁵ Ann M. Eisenberg, *Land Shark at the Door? Why and How States Should Regulate Landmen*, 27 FORDHAM ENV'T L. REV. 157, 160–62 (2016).

⁵¹⁶ In 2018, FERC during public input regarding FERC's Certification of Natural Gas Facilities, landowners noted numerous problems including the imbalance in access to FERC by landowners as compared with industry, lack of industry recognition of the value, including cultural, of land to landowners, not responding to public input, and designing processes to manage (contain) public input. See Finley-Brook et al., *supra* note 11, at 176–77 (noting the substantial influence of Dominion Energy on the review process).

⁵¹⁷ Irene E. Leech, Submission to FERC Docket No. PL18-1-000 Certification of New Interstate Natural Gas Facilities (July 25, 2018).

⁵¹⁸ Dan Radmacher, *Virginia Gold Rush: Virginia Gold Rush: Residents Fear Dangerous Open Pit Mine Will Open in Buckingham County Before General Assembly Acts*, APPALACHIAN VOICES (June 25, 2021), <https://appvoices.org/2021/06/25/virginia-gold-rush/> [<https://perma.cc/34EV-LA34>].

⁵¹⁹ Elizabeth Kreydatus, *Change Virginia's 'Hush and Hurry' Tendency on Environmental Regulation*, VA. MERCURY (June 24, 2019, 11:45 PM), <https://www.virginiamercury.com/2019/06/24/change-virginias-hush-and-hurry-tendency-on-environmental-regulation/> [<https://perma.cc/JWV3-ZZJG>]; Beth Kreydatus, *Beth Kreydatus Column: Virginia Needs a More Transparent Regulatory System for Fossil Fuel Investments*, RICHMOND TIMES-DISPATCH (Dec. 15, 2019), https://richmond.com/opinion/columnists/beth-kreydatus-column-virginia-needs-a-more-transparent-regulatory-system-for-fossil-fuel-investments/article_bb20f3df-0f69-593e-8f8f-ad1c9efc28c4.html [<https://perma.cc/CBU3-5ST9>].

⁵²⁰ H.B. 1678, 2017 Sess. (Va. 2017).

⁵²¹ *Partnering for a Resilient Petersburg*, VEJC (Mar. 30, 2021), <https://www.vaejc.com/post/partnering-for-a-resilient-petersburg> [<https://perma.cc/QH2X-NJKF>]; *Home*, VEJC, <https://www.vaejc.com/> [<https://perma.cc/EMZ3-9X3C>] (last visited Apr. 3, 2022).

following detailed rules unknown to most citizens.⁵²² Public comments require technical critiques. It is impossible to provide much information in oral comments timed one to three minutes. These are processes of disablement⁵²³ of people without internet, computers, or time to devote to uncovering industry impacts without support from agencies paid by taxpayers to regulate pollution and unfair, disproportionate impacts on minority and low-income communities.⁵²⁴

Watchdogs have an important role—to hold decision-makers and companies accountable to law, agreed scientific methods, and site-specific data, in the face of industry efforts to capture public agencies. Stop Abuse of Virginia Energy (“SAVE”) Coalition is a statewide network that emerged in response to a Header Improvement Project⁵²⁵ from Virginia Natural Gas, a subsidiary of Southern Company, on the tails of the ACP ending at the same terminus in Hampton Roads. Grassroots movements and their legal and technical support networks grew as members gained experience and used it to push for reforms as entities undergo periodic review of procedures for public engagement, siting, notification, and more. There is a near constant threat of litigation on both sides of controversial permits, increasing accountability, and opening and lengthening spaces for participation across permitting processes.⁵²⁶

D. Claimed and Created Spaces

1. People’s Hearings Investigating FERC Abuse

Frustrated with the way FERC handled the pipeline approval processes, sixty landowners and others from across the United States

⁵²² See, e.g., Emily Vogels, *Some Digital Divides Persist Between Rural, Urban, and Suburban America*, PEW RSCH. CTR (Aug. 19, 2021), <https://www.pewresearch.org/fact-tank/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/> [<https://perma.cc/6LCT-DT77>]; *The Data Equity Framework*, WE ALL COUNT, <https://weallcount.com/the-data-process/> [<https://perma.cc/YXL4-66WX>] (last visited Apr. 3, 2022).

⁵²³ See generally Laskimi Fjord & Lenore Manderson, *Anthropological Perspectives on Disasters and Disability: An Introduction*, 68 HUMAN ORG. 64 (2009).

⁵²⁴ See, e.g., WE ALL COUNT, *supra* note 522. In the case of the Lambert CS Air Board hearing, a coalition of grassroots groups including the VEJC, ARTivism Virginia, Protect our Water, Heritage, Rights (“POWHR”), Appalachian Voices, Sierra Club, and Virginia Interfaith Power and Light offered technical assistance to Pittsylvania County.

⁵²⁵ Itai Vardi, *Two Controversial Virginia Gas Plants Face Increasing Uncertainty, Documents Show*, ENERGY & POL’Y INST. (Apr. 29, 2020), <https://www.energyandpolicy.org/two-controversial-virginia-gas-plants-face-increasing-uncertainty-documents-show/> [<https://perma.cc/WG4K-TX3K>].

⁵²⁶ For example, comment periods have been extended from the standard of thirty days to forty-five or sixty days. *Id.*

gathered at a People's Hearing in Washington, D.C., in 2016 to give evidence to FERC's harms.⁵²⁷ As a result, more than 180 organizations⁵²⁸ called on Congress to reform the Natural Gas Act and investigate FERC.⁵²⁹ These People's Hearings in 2016 and another in 2020 drew attention to the structural violence landowners experience demonstrating evidence of the need to improve the balance of power with use of eminent domain and increase fairness in FERC procedures.⁵³⁰

2. People's Tribunal

A Charlottesville Tribunal⁵³¹ involving first person testimony from three states provided evidence of human rights and environmental justice violations across the ACP and MVP routes.⁵³² The tribunal countered the structural violence of the local, federal, and state permitting (e.g., closed or invited spaces inaccessible to most front line people dictated by strict deadlines and short timelines).⁵³³ Unlike governmental permitting

⁵²⁷ Larry Buhl, "People's Hearing" Demands Oversight of FERC for Allegedly Rubber-stamping Pipeline and Gas Projects, DESMOG (Dec. 7, 2016, 1:20 PM), <https://www.desmog.com/2016/12/07/people-s-hearing-demands-oversight-ferc-allegedly-rubber-stamping-pipeline-and-gas-projects/> [<https://perma.cc/8T2V-ZPAM>]; Mark Hand, 'People's Hearing' Convened to Reform FERC, DC MEDIA GROUP (Dec. 5, 2016), <https://www.dcmidiagroup.us/2016/12/05/peoples-hearing-convened-reform-ferc/> [<https://perma.cc/5WQG-ZFS2>].

⁵²⁸ Organizers included Delaware Riverkeeper Network, Berks Gas Truth, Food & Water Watch, Clean Water Action, Beyond Extreme Energy, EarthWorks and Catskill Mountainkeeper. Press Release, Delaware Riverkeeper Network, Delaware Riverkeeper Network along with 180+ Organizations from 35 States Call for Congressional Review of FERC (Sept. 21, 2016), <https://delawareriverkeeper.org/sites/default/files/PR%20Congressional%20Hrg%20re%20FERC%20%26%20NGA%209.21.16.pdf> [<https://perma.cc/NQ7Q-WUVG>].

⁵²⁹ *Id.*

⁵³⁰ *Id.*

⁵³¹ During the white supremacist violence that took place in Charlottesville on August 11–12, 2017, members of the Virginia Student Environmental Coalition ("VSEC"), who served as scribes to the Union Hill leaders on the community study, were gravely injured. See, e.g., Hilary Hughes, *A UVA Student Organizer Recounts His 24 Hours of Counter-Protest in Charlottesville*, MTV (Aug. 12, 2017), <https://www.mtv.com/news/3030144/uva-student-organizer-charlottesville-protest/> [<https://perma.cc/4ZTR-QQGS>].

⁵³² LAKSHMI FJORD & IRENE LEECH, THE PEOPLE'S TRIBUNAL, SUMMARY REPORT: CHARLOTTESVILLE PEOPLES' TRIBUNAL ON THE HUMAN RIGHTS AND ENVIRONMENTAL JUSTICE IMPACTS OF FRACKED GAS INFRASTRUCTURE 100, 102 (2018), https://www.envirjustice-acp-mvp-peopletribunals.org/_files/ugd/9a7366_98ccbb96b3db4e29af2d528e3ae53626.pdf [<https://perma.cc/EAK6-UNGS>].

⁵³³ *Id.* at 4. Support from twenty-five co-sponsoring groups ensured participation across the ACP and MVP with transportation, housing, and food. *Id.* at 106.

processes at the time, the Tribunal was livestreamed, with testimonies videotaped and archived to increase access to testimony.⁵³⁴

3. Permanent People's Tribunal on the Human Rights Impacts of Fracking

Organizers of the Permanent People's Tribunal invited Charlottesville People's Tribunal testifiers to a global tribunal in 2018.⁵³⁵ The Permanent People's Tribunal is an internationally recognized human rights tribunal that functions independently of state authorities to inform governments and UN treaty-making.⁵³⁶ The Tribunal released a 2019 Advisory Opinion recommending a worldwide ban on hydraulic fracturing because it violates human rights, including the rights to life, water, full information and participation, and especially the rights of Indigenous Peoples, women, and children.⁵³⁷

4. ARTivism Virginia, Circles of Protection

Throughout 2018, ARTivism Virginia produced weekly and then monthly, Circles of Protection in the fields, churchyards, and public spaces of Union Hill.⁵³⁸ These gatherings of interfaith prayer, personal story, poetry, and song connected directly impacted and broadband-poor community members with each other, environmental allies, and media.⁵³⁹ Often followed by a church-basement potluck and informational speaker, recurring circles served as the principal means of sustaining community organizing in Union Hill, especially after Dominion Energy's payments intensified community divisions about the CS.⁵⁴⁰ Over time, Circle of Protection events

⁵³⁴ *Id.*

⁵³⁵ PERMANENT PEOPLE'S TRIBUNAL ON HUMAN RIGHTS AND FRACKING, *The Court's Judgements: Advisory Opinion*, at Annex 2 (Apr. 2019) [hereinafter PERMANENT PEOPLE'S TRIBUNAL], <https://www.tribunalonfracking.org/wp-content/uploads/2019/04/AO-final-4-12-19.pdf> [<https://perma.cc/PLN5-9MM3>].

⁵³⁶ *What Is the Permanent People's Tribunal?*, PERMANENT PEOPLES' TRIBUNAL (2022), <https://www.tribunalonfracking.org/what-is-the-permanent-peoples-tribunal/> [<https://perma.cc/H7R8-RL79>].

⁵³⁷ *Id.*

⁵³⁸ *See, e.g.*, ARTIVISM VIRGINIA, *The Air We Breathe*, YOUTUBE (Aug. 9, 2018), https://www.youtube.com/watch?v=qanqzRfhptI&ab_channel=ARTivismVirginia [<https://perma.cc/Y3LY-PXUP>].

⁵³⁹ *See id.*

⁵⁴⁰ *See id.*

provided a platform for the “We Are All Union Hill” campaign linking to other targeted communities experiencing racist sitings.⁵⁴¹

A 2021 Violation Vigil in Richmond co-organized by ARTivism and others sought to encourage the State Water Control Board to vote to deny MVP Clean Water Act permit.⁵⁴² Three hundred people described a specific individual MVP violation of the Clean Water Act.⁵⁴³ In a keynote by Reverend Dr. William J. Barber, II of the Poor People’s Campaign: A National Call for Moral Revival and Repairers of the Breach, he reminded attendees: “Justice always gets beat up, but justice rises from the bottom.”⁵⁴⁴

5. Yellow Finch Tree Sits

Civil disobedience increases when people perceive that companies and agencies are not being held accountable to environmental rules,⁵⁴⁵ when legal processes fail, or where important stakeholders are not consulted. Some feel moved to set up blockades, like the 932-day Yellow Finch tree sit.⁵⁴⁶ Blockadia, a phrase coined by Naomi Klein,⁵⁴⁷ represents a growing movement of regular people willing to step in to halt projects when leaders fail.⁵⁴⁸

Yellow Finch represents broader solidarity across time and space, as demonstrated by connections between movements.⁵⁴⁹

⁵⁴¹ See generally *We Are All Union Hill*, <https://charlottesvillemuralproject.org/we-are-all-union-hill/> [<https://perma.cc/VLZ3-ZUCU>] (last visited Apr. 3, 2022); ARTivism VIRGINIA, *About*, YOUTUBE, <https://www.youtube.com/c/ARTivismVirginia/about> [<https://perma.cc/U697-NE9A>] (last visited Apr. 3, 2022).

⁵⁴² Donna Pitt, *Violation Vigil Recap*, POWHR NEWSLETTER (Dec. 2021).

⁵⁴³ The program included statements by coalition leaders, puppetry, music, and art. See *id.*

⁵⁴⁴ ARTivism, *Time to Choose Our Future*, YOUTUBE (Dec. 13, 2021), <https://www.youtube.com/watch?v=N0ozwQeUjcQ> [<https://perma.cc/CUY9-GKDR>].

⁵⁴⁵ Emily Hammond, *Toward a Role for Protest in Environmental Law*, 70 CASE W. RES. L. REV. 1039, 1061–62 (2019).

⁵⁴⁶ See Figure 8; Matt Dhillon, *Last Tree-sitters Removed from Path of Mountain Valley Pipeline*, THE APPALACHIAN VOICE (Apr. 16, 2021), <https://appvoices.org/2021/04/16/tree-sitters-removed-mvp/> [<https://perma.cc/EC9D-QM75>]; John Hultgren, *Undoing the Oikos, Awakening Resistance? Neoliberalism, Democracy, and the Environment in ‘Trump Country,’* 23 THEORY & EVENT 271, 271 (2020); Joanna Patzig, *Protesting Dirty Energy: An Interview with Emily Satterwhite*, QUAIL BELL MAGAZINE (Dec. 2, 2019), <http://www.quailbellmagazine.com/the-real-20/protesting-dirty-energy-an-interview-with-emily-satterwhite> [<https://perma.cc/5TJK-8MQT>].

⁵⁴⁷ Daria Rivin & Alice Owen, *This Is Blockadia*, RESILIENCE (Nov. 17, 2017), <https://www.resilience.org/stories/2017-11-17/this-is-blockadia/> [<https://perma.cc/LB88-CTQH>].

⁵⁴⁸ *Id.*

⁵⁴⁹ See Figure 8.

Figure 8: Yellow Finch Solidarity with Unist’ot’en and Union Hill⁵⁵⁰



E. Environmental Justice Praxis

Structural violence still continues in rural communities.⁵⁵¹ Groups and entities should be able to apply for Consulting Party status⁵⁵² from federal agencies, including FERC, and receive information considered proprietary and held from the public. For both ACP and MVP pipelines, FERC refused to grant Consulting Party status to any community groups.⁵⁵³ This did not dissuade Union Hill from involvement, but it made it harder. Union Hill’s community study to defend against the CS later led to historic eligibility for the first time for a Free Black–built community in Virginia.⁵⁵⁴ This was followed by Brown Grove Historic Residential District where citizens are fighting a Wegmans distribution center in a Free

⁵⁵⁰ Emily Satterwhite, Yellow Finch Solidarity with Unist’ot’en and Union Hill (photograph).

⁵⁵¹ Loka Ashwood & Kate MacTavish, *Tyranny of the Majority and Rural Environmental Injustice*, 47 J. RURAL STUD. 271, 271 (2016).

⁵⁵² Participatory engagement for interested parties (e.g., local governments, Tribes, historic preservation groups, landowners) to identify historic properties, assess effects, resolve adverse effects, and provide for public involvement is required as part of the Historic Preservation Act. *Section 106 Applicant Toolkit Synopsis*, ADVISORY COUNCIL ON HISTORIC PRESERVATION, <https://www.achp.gov/digital-library-section-106-landing/section-106-applicant-toolkit> [https://perma.cc/HQ3H-6S7K] (last visited Apr. 3, 2022).

⁵⁵³ Letter from National Trust for Historic Preservation to Nathaniel Davis, Sr. Deputy Secretary, Federal Energy Regulatory Commission (Apr. 6, 2017).

⁵⁵⁴ *Union Hill Makes History—Again*, S. ENV’T L. CTR. (Feb. 1, 2021), <https://www.southernenvironment.org/news/union-hill-makes-historyagain/> [https://perma.cc/4X5D-7L8J].

Black-built community.⁵⁵⁵ Most recently recognized was the Pine Grove Rural Historic District where citizens oppose a new mega-landfill.⁵⁵⁶ Historic eligibility should confer protections even before final nomination or approval. This can be important in rural minority communities where preservation assessments are incomplete, as in Charles City County.

CONCLUSION

The 2020 EJ Act must be strengthened so procedures become more participatory and fairer. Evolving environmental justice norms often focus on quantifiable data to verify equitable treatment; while it is important to assure numerical fairness in costs and benefits, these assessments can overlook that environmental justice is a process. Invited spaces will not allow for the transformation necessary, as documented in our lived experiences, where residents used every opportunity to try to influence the process and were frequently still excluded. Their concerns were seldom addressed, encouraging front line communities and supporters to become relentless, and to use and refuse the law until justice occurs. Our examples of created and claimed spaces demonstrate collaborative efforts to transform risks into opportunities. Join us.⁵⁵⁷

⁵⁵⁵ Kaitlyn Kennedy, “We’re Going To Put Up A Fight”: Brown Grove Residents Push to Save Historic Black Community, TAG24 (Jan. 19, 2022, 10:15 AM), <https://www.tag24.com/politics/blacklivesmatter/we-re-going-to-put-up-a-fight-brown-grove-residents-push-to-save-historic-black-community-2286319> [<https://perma.cc/69DH-S6A7>]; PRELIMINARY INFORMATION FORM FOR BROWN GROVE RESIDENTIAL RURAL DISTRICT, VIRGINIA DEPARTMENT OF HISTORIC RESOURCES 22 (Jan. 2018), <https://www.dhr.virginia.gov/wp-content/uploads/2021/06/BEST-Drake-BGRHD-PIF-DSD-MCW-EDIT-6-10-21.pdf> [<https://perma.cc/KLF5-NN7W>].

⁵⁵⁶ Pine Grove Rosenwald School Was Named a “Most Endangered Historic Site” by the National Trust for Historic Preservation in 2021; see Sydney Trent, *An Educational Haven for Black Children During Segregation Makes Endangered Places List*, WASH. POST (June 3, 2021, 6:59 PM), <https://www.washingtonpost.com/history/2021/06/03/endangered-historic-places-list-pine-grove-virginia/> [<https://perma.cc/SG6Z-PA2H>]; *Pine Grove School Rural Historic District, Cumberland County, DHR No. 024-5125*, VIRGINIA DEPARTMENT OF HISTORIC RESOURCES, <https://www.dhr.virginia.gov/pifs/pine-grove-school-rural-historic-district-cumberland-county-dhr-no-024-5125/> [<https://perma.cc/XB6T-DBZ7>] (last visited Apr. 3, 2022).

⁵⁵⁷ Postscript: during the drafting of this Article in January of 2022, a storm knocked out power across much of central Virginia. Elizabeth Holmes, *Dominion Energy, REC Prepare for Potential Winter Storm*, NBC29 (Jan. 13, 2022, 5:59 PM), <https://www.nbc29.com/2022/01/13/dominion-energy-rec-prepare-potential-winter-storm/> [<https://perma.cc/X7CD-CV9X>]. It took nine days for everyone in rural areas to get power restored. *Id.* Inequalities during recovery expose points made here about lingering consequences of deep seated bigotry and structural violence.

APPENDIX A

CURRENT AFFILIATIONS OF ENVIRONMENTAL JUSTICE RESEARCHERS

Chad Oba:

Friends of Buckingham

Lakshmi Fjord:

Friends of Buckingham; Union Hill Freedmen Family Research Group; Pine Grove Project; Brown Grove Preservation Group (University of Virginia visiting scholar)

Richard W. Walker:

Bridging the Gap in Virginia

La'Veesha Rollins Allen:

Concerned Citizens of Charles City County/Barnetts Learning and Conceptual Complex

Faith Harris:

Virginia Interfaith Power and Light

Crystal Cavalier:

7 Directions of Service, Indigenous Organization

Queen Zakia Shabazz:

Virginia Environmental Justice Collaborative

Jessica Sims:

Appalachian Voices

Kendyl Crawford:

Virginia Interfaith Power and Light

Kay Leigh Ferguson:

ARTivism Virginia

Heidi Dhivya Berthoud:

Friends of Buckingham, Virginia Community Rights Network

Karen Campblin:

ktcPLAN

Wanda Roberts:

Concerned Citizens of Charles City County

Kidest Gebre:

Virginia Interfaith Power and Light

Caroline Hansley:

Sierra Club

Steve Fuhrmann:

Resident of Charles City County

Elizabeth Kreydatus:

Virginia Commonwealth University

Irene Leech:

Virginia Tech

Emily Satterwhite:

Virginia Tech

Roberto Chia Balmaceda:

University of Richmond

McKenna Dunbar:

University of Richmond / Ecological Justice Initiative

Ashley Appolon:

University of Richmond

Stephen Metts:

The New School