

Carbon Reduction Strategies and Environmental Justice in Virginia

VIRGINIA ENVIRONMENTAL JUSTICE COLLABORATIVE

February 28, 2017
EO 57 Working Group Meeting
Richmond, VA

Virginia Environmental Justice Collaborative

- Southeast CARE Coalition
- VA Interfaith Power and Light
- University of Richmond
- Appalachian Voices
- Chesapeake Climate Action Network
- Faith Alliance for Climate Solutions
- Mothers Out Front
- Moms Clean Air Force
- New Virginia Majority
- Sierra Club Virginia Chapter
- Virginia Conservation Network
- Virginia Organizing

Solutions: Promote Renewable Energy and Energy Efficiency

- We recommend a **mass-based mitigation plan** for greenhouse gases that targets overall emissions and includes **present and future emissions**.
- An important step for the state is to **commit to 30X30**.
- **Energy efficiency** is the most cost effective way to reduce emissions.
- Virginia policy-makers need to **remove policy impediments** that constrain the growth of renewables, such as caps on the use of net metering and restrictions on the use of Power Purchasing Agreements.
- The state should also improve economic incentives for clean energy and establish a mandatory **Renewable Portfolio Standard**.
- **Multi-unit** and **community solar** will reduce costs and expand benefits.

Sources: Paben, J.M.Z. 2014. Green power and environmental justice: Does green discriminate? *Texas Tech Law Review*. 46: 1067-1110; Molina, M. 2014. *The Best Cost for America's Energy Dollar: A National Review of the Cost of Utility Energy Efficiency Programs*; American Council for an Energy Efficient Economy: Washington, DC; Michauld, G. 2016. Community Shared Solar in Virginia: Political and Institutional Barriers and Opportunities. *Politics, Bureaucracy and Justice*. 5(1): 1-15.

Participation and Transparency

- Take advantage of a unique window of opportunity to reduce carbon (and other types of) pollution and increase social equity.
- Community engagement should not be limited to an occasional presentation, written comment, or public meeting.
- Encourage community input in planning, implementation, and all stages of energy and climate policy.
- Define “Environmental Justice” community (e.g., low-income and/or people of color) at state and local levels.

Environmental Justice Advisory Council (EJAC)

- We propose the creation of a statewide **Environmental Justice Advisory Council (EJAC)** to directly communicate with the Secretary of Natural Resources, the Department of Environmental Quality, and the Department of Mines, Minerals and Energy providing a channel for sustained and meaningful participation.
- EJAC would extend beyond the EO57 process.
- An environmental justice advisory body exists in California, Maryland, Massachusetts, Minnesota, New Jersey, New Mexico, New York, Oregon, Pennsylvania, and South Carolina.

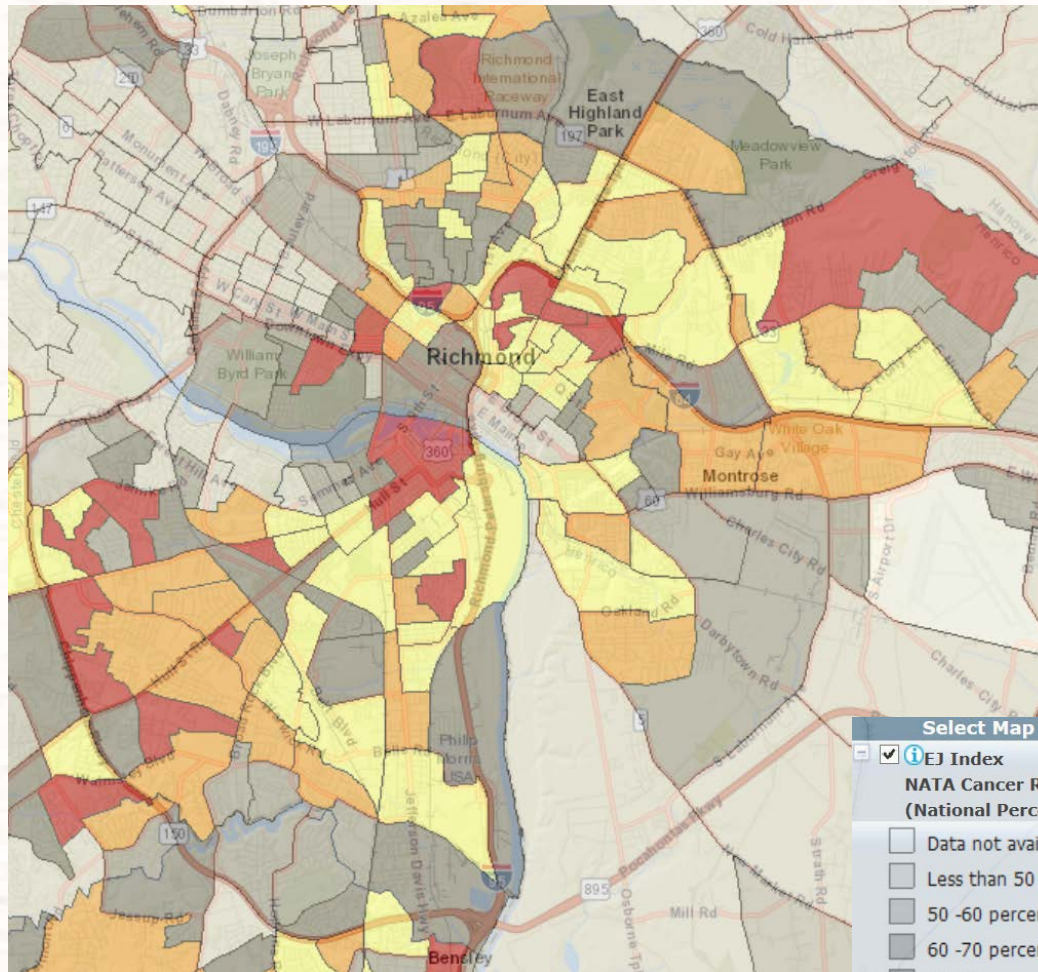
Benefits from EJAC

- Integrate environmental justice considerations into state programs, policies and activities;
- Target legislation, actions, and resources toward the most vulnerable populations improving state and local **resiliency** to natural disasters;
- Strengthen **partnerships** between local communities, local businesses, and civic and nonprofit organizations to improve **economic opportunities** from carbon reduction, particularly renewable energy and energy efficiency programs;
- Improve the environment or **public health** in communities disproportionately burdened by environmental harms and risks;
- **Engage, educate, and empower** environmental justice communities and populations to become active participants in energy transition and climate change mitigation and adaptation;
- Ensure meaningful involvement in decision-making, **build capacity** in disproportionately burdened communities, and promote **collaborative problem-solving** for issues involving environmental justice;
- Increase **participatory environmental monitoring** in minority and low-income communities;
- Enhance **planning, research, and assessment** for environmental justice.

Proposed EJAC Structure

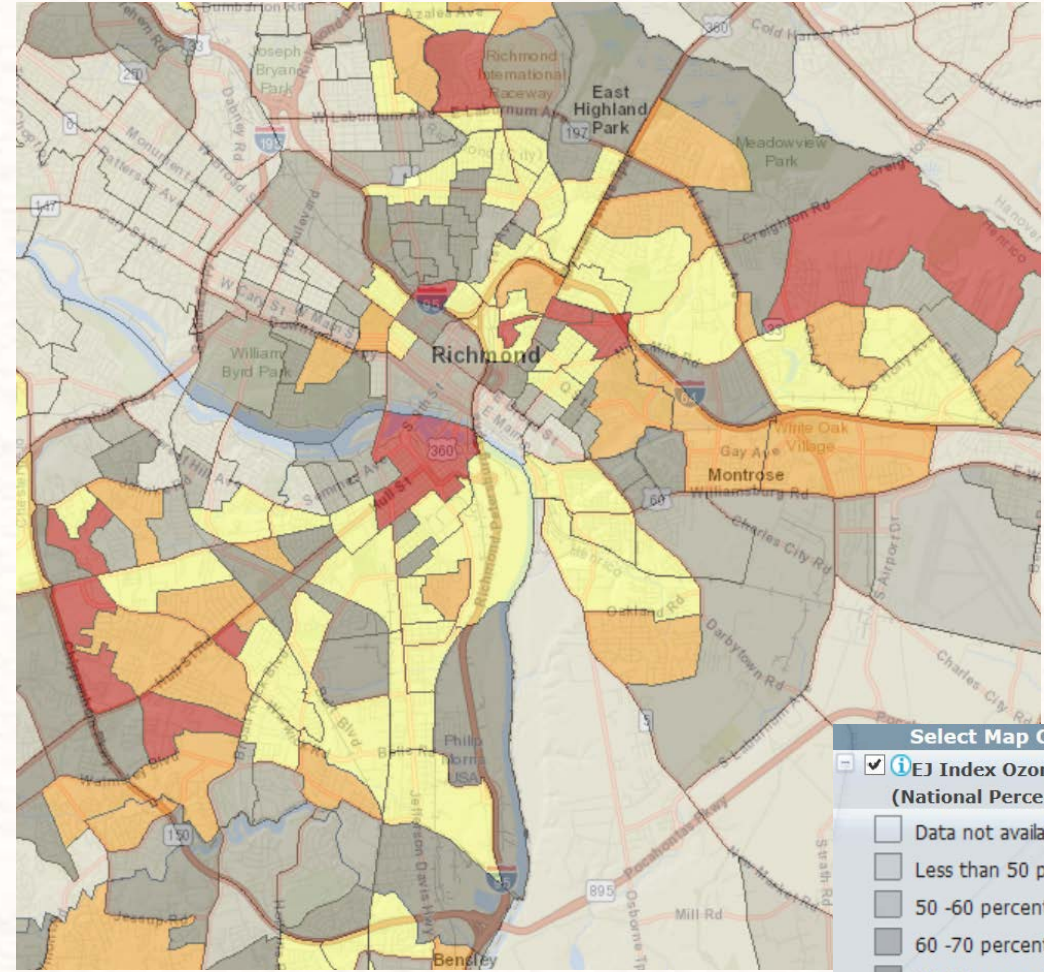
- Participants:
 - Nominated representatives of environmental justice organizations and communities located in different parts of the state (**Citizens Advisory Council**);
 - Professional allies in institutions of public health, legal clinics, universities, and faith-based and non-profit organizations;
 - 1+ state delegate(s), 1+ state senator(s), representatives of state ministries and secretaries, 1+ local government representative(s), 1+ business representative(s).
- Councils usually convene between 4 and 12 times per year.

EPA'S EJSCREEN MAPPING TOOL: RICHMOND AIR QUALITY



Select Map Contents

- EJ Index
- NATA Cancer Risk (National Percentiles)
- Data not available
- Less than 50 percentile
- 50 -60 percentile
- 60 -70 percentile
- 70 -80 percentile
- 80 - 90 percentile
- 90 - 95 percentile
- 95 - 100 percentile



Select Map Contents

- EJ Index Ozone
- Ozone (National Percentiles)
- Data not available
- Less than 50 percentile
- 50 -60 percentile
- 60 -70 percentile
- 70 -80 percentile
- 80 - 90 percentile
- 90 - 95 percentile
- 95 - 100 percentile

Solutions: Identify Synergistic and Cumulative Impacts

- Investigate **cumulative** and **synergistic impacts** (i.e., pollutants accumulate over time and interact to create new and intensified risks).
 - Various facilities located in the same environmental justice communities emit multiple pollutants.
 - Pollutants **combine** together, are **mobile**, and can **persist** for a long time.
- Do not regulate pollution from stationary sources such as energy plants in static isolation.

Source: Soloman, G.M. et al. 2016. Cumulative environmental impacts: Science and policy to protect communities. *Annual Review of Public Health*. 37: 83-96.



Southeast CARE Coalition
Newport News





Public Health Impacts:

- Coal dust has been shown to contribute to heart and respiratory diseases, chronic bronchitis, asthma, lung cancer, and more.
- Fine coal dust particles less than 2.5 microns lodge are inhaled deeply into lungs, become lodged, and are not naturally expelled; long-term exposure increases risk of health problems.
- Coal dust contains heavy metals (i.e., lead, mercury, arsenic), which are toxic even at low concentrations.

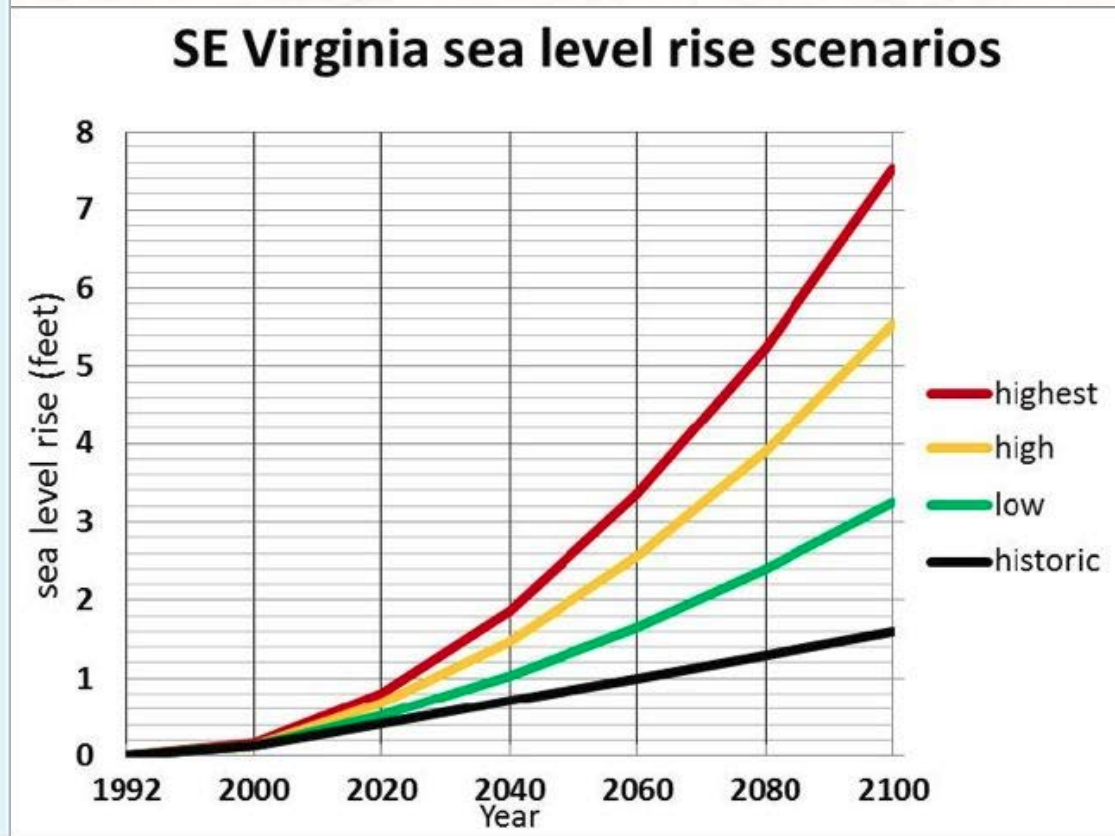
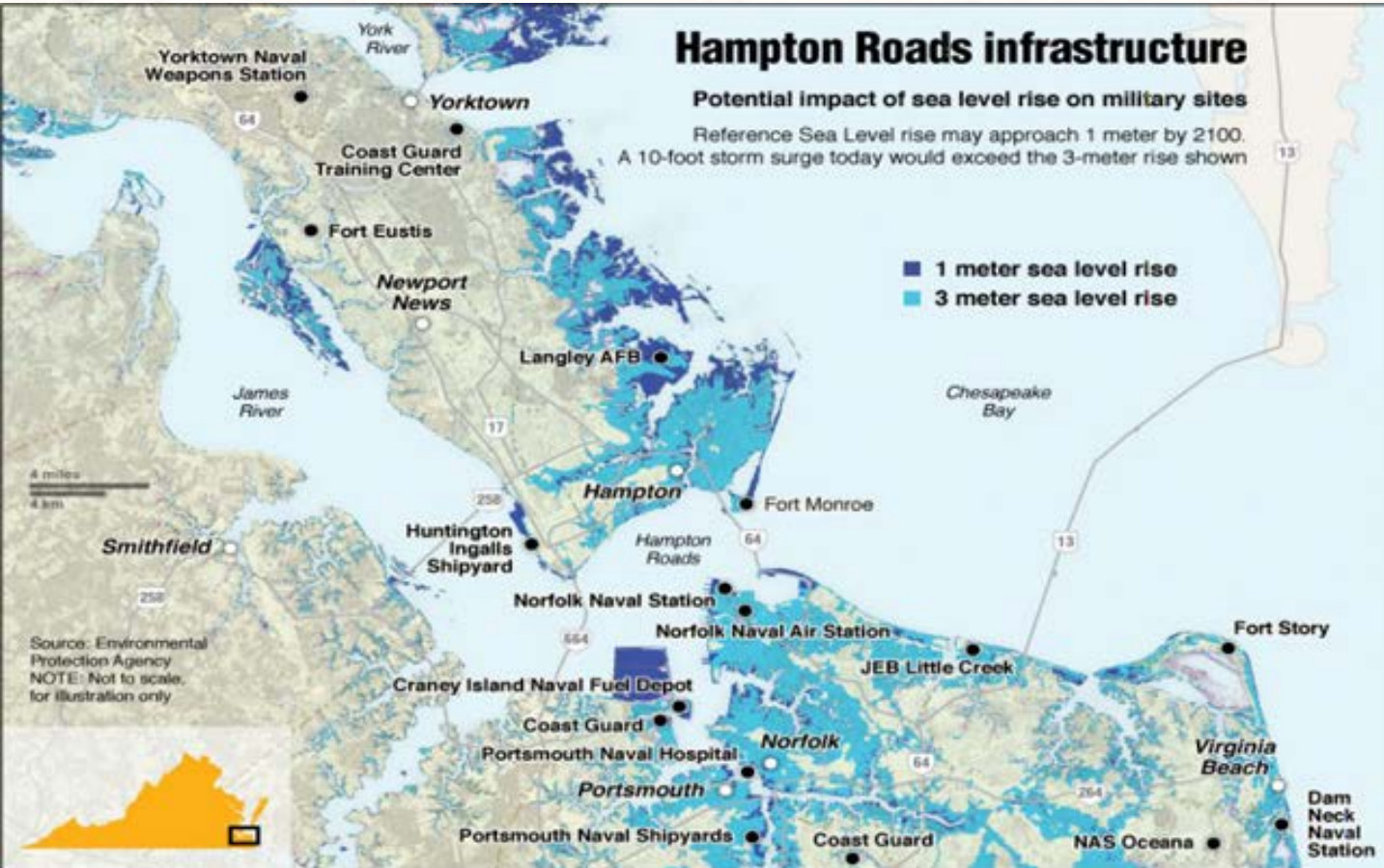
Source: Lockwood, A.H. et al. 2009. Coal's Assault on Human Health. Physicians for Social Responsibility.

<http://www.psr.org/assets/pdfs/psr-coal-fullreport.pdf>.

Southeast Newport News: Coal Dust



Sea Level Rise: Economic and Social Risk



Dills, B. 2014. National Security and the Accelerating Risks of Climate Change. Wilson Center. <https://www.newsecuritybeat.org/2014/06/national-security-accelerating-risks-climate-change-report-launch/>

VIMS, College of William and Mary. 2013. Sea-Level-Rise Scenarios. http://www.vims.edu/newsandevents/topstories/slr_scenarios.php

EJAC Structure

- Convene a **Coastal Community Resiliency Task Force** as part of EJAC to help identify the most vulnerable low-income frontline communities impacted by sea level rise and design policies to protect them today and into the future.
 - This is different from the Resilience Collaborative and the Hampton Roads Sea Level Rise Adaptation Forum with Old Dominion University because it would focus specifically on environmental justice communities and would include a broader geographical scope (e.g., Accomack County, including Tangier and other islands).

Chesapeake: Power Station Impacts



Southern Environmental Law Center. 2017. Chesapeake Coal Ash Site “Highly Vulnerable” to Coastal Hazards. Available: <https://www.southernenvironment.org/news-and-press/press-releases/chesapeake-coal-ash-site-highly-vulnerable-to-coastal-hazards>

Environmental Justice Screening Report

- Of 26 power plants in Virginia, 57.7% were located in areas with above average percentages of people of color and 76.9% were located in areas with above average low-income populations.
- 50% of Virginian power plants were located in areas with higher percentages than average of both low-income populations and people of color.

Source: EPA. 2015. EJ Screening Report for the Clean Power Plan.

<https://www.epa.gov/cleanpowerplan/ej-screening-report-clean-power-plan>.

Power Stations in Virginia in the Highest Population Centers

Power Station	Total pop. in 3 mi. radius	% People of Color (red = above VA av. of 35%)	% Low-income (red = above VA av. of 26%)
Potomac River*	144,845	51	25
Bellmeade	65,317	77	49
Chesapeake Energy*	58,534	52	31
Portsmouth Genco	54,363	44	30
Spruance Genco	34,274	72	45
Hopewell Cogeneration	27,794	46	40
Hopewell Power	26,574	45	40
James River Genco	22,262	44	41
Possum Point	16,594	61	24

* Stations currently closed but on-site pollution remains.

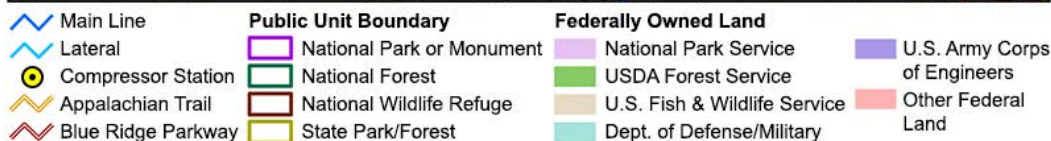
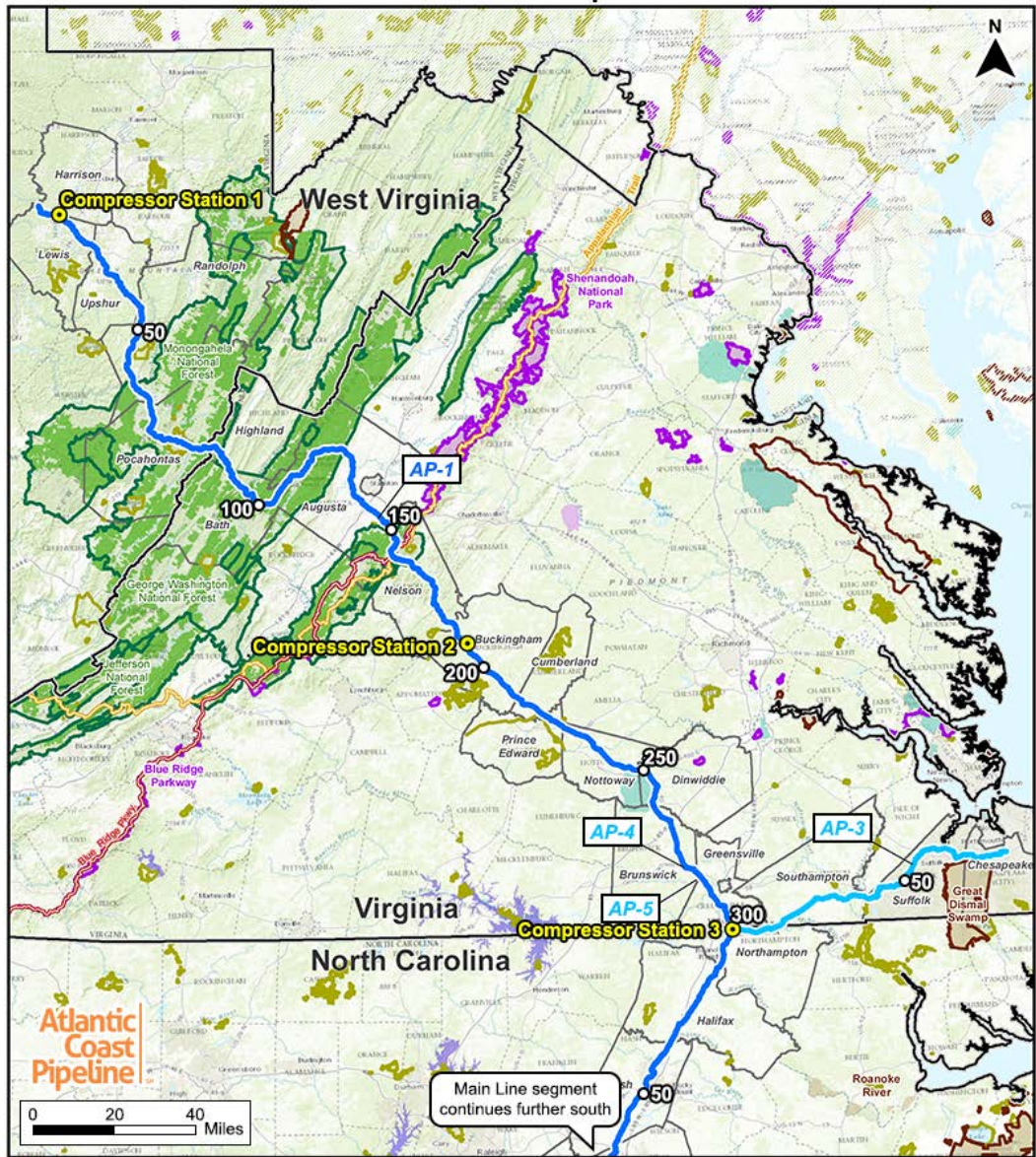
Source: EPA. 2015. EJ Screening Report for the Clean Power Plan.

Solutions: Create Incentives for Clean Air

- Create an Environmental Justice Emissions Reduction Incentive Program (i.e., tax credits) for facilities that reduce emissions in heavily burdened communities.
 - As we undergo energy transition, we should not only address past injustices, but also must also avoid harming vulnerable populations in new ways.
 - Carbon pollution reduction strategies must not result in increased emissions for environmental justice communities and should seek to **improve air quality in already burdened areas.**

Source: Wright, B. and E. Nance. 2012. Toward equity: Prioritizing vulnerable communities in climate change. *Duke Forum Law Social Change*. 4: 1-21.

Atlantic Coast Pipeline



Source: Dominion

Perils of Overreliance on Natural Gas

Air pollutants typically emitted from **compressor stations** include volatile organic compounds, particulate matter, nitrogen oxides, carbon monoxide, sulfur dioxide, benzene, acetaldehyde, formaldehyde, toluene, xylenes, and greenhouse gases (carbon dioxide, methane and nitrous oxide).

Cloczko, N. 2015. A brief review of compressor stations. <http://www.environmentalhealthproject.org/files/A%20Brief%20Review%20of%20Compressor%20Stations%2011.2015.pdf>.

Cradle-to-Grave Analysis

- Resource managers and researchers increasingly employ Life Cycle Assessments (LCA) or cradle-to-grave analysis, including all steps from raw material acquisition to end use, to quantify greenhouse gas (GHG) emissions from gas projects.
- Research demonstrates high levels of methane emissions from natural gas infrastructure.
- For example, a recent study estimates the GHG emissions of the Atlantic Coast Pipeline using a full life cycle assessment to be nearly 68 million metric tons per year, equivalent to 20 coal plants.

Source: National Renewable Energy Laboratory. 2015. Controlling Methane Emissions in the Natural Gas Sector: A Review of Federal & State Regulatory Frameworks Governing Production, Gathering, Processing, Transmission, and Distribution. <http://www.nrel.gov/docs/fy15osti/63416.pdf>; Alvarez, R.A. et al. 2010. Greater focus needed on methane leakages on natural gas infrastructure. *Proceedings of the National Academy of Sciences*. 109(17): 6435-6440; Oil Change International and Bold Alliance. 2017. The Atlantic Coast Pipeline: Greenhouse Gas Emissions Briefing. http://priceofoil.org/content/uploads/2017/02/atlantic_coast_pipeline_web_final_v3.pdf.

If we do not act now...

Questions and Comments

For more information,
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