In order to preserve and protect the Commonwealth’s water, land, and air we must hold polluting industries accountable. By creating regulations for aboveground chemical storage tanks, increasing the availability of data from chemical conversion facilities, and eliminating the buildout of carbon intensive infrastructure we can ensure the preservation of Virginia’s natural resources for future generations.

EXECUTIVE SUMMARIES AND CONTACT INFORMATION

STOPPING UNNECESSARY PIPELINES & PHASING OUT FOSSIL FUEL BUILDOUT

ENSURING ACCOUNTABILITY IN THE CHEMICAL CONVERSION INDUSTRY

PROTECTING VIRGINIANS FROM HAZARDOUS CHEMICAL SPILLS

ADDRESSING UNREGULATED INDUSTRIAL TOXINS TO PROTECT PUBLIC HEALTH & THE ENVIRONMENT

PROTECTING VIRGINIA’S ENVIRONMENT & PUBLIC HEALTH FROM INDUSTRIAL METAL MINING

DECLAROBIZING VIRGINIA’S INDUSTRIAL POLLUTION WITH LOW-CARBON CONCRETE

ENDNOTES
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STopping unnecessary pipelines & phasing out fossil fuel buildout

Fossil fuel infrastructure negatively impacts public health and the environment and contributes to our climate crisis. In Virginia, projects like the fracked-gas Mountain Valley Pipeline (MVP) perpetuate environmental injustice and hinder us from achieving the clean energy goals of our Commonwealth in an equitable manner. Pipelines like MVP represent an overbuild of gas infrastructure in the region and provide no true benefit for local communities. Like the similarly unneeded Atlantic Coast Pipeline (cancelled in July 2020), MVP should be cancelled. Legislators should adopt policies that recognize the severity of the climate crisis and strengthen protections for communities impacted by fossil fuel infrastructure.

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Ensuring accountability in the chemical conversion industry

Virginia's waterways are under assault by single-use plastic trash that is carried by stormwater and thoughtlessly discarded as litter. The volume of plastic trash and the ongoing recycling crisis led the plastics and chemical industries to promote chemical conversion as a solution. Chemical conversion will not reduce the use of single-use plastics, it will incentivize its continued use and create demand for plastic as a feedstock for plastics to fuel facilities. Legislators and regulators must ensure that the industry does not pollute waterways, entrench our dependence on single-use plastics, and inequitably burden communities of color where chemical conversion plants are often sited. Industry accountability, particularly the 10%olicy for registering intake, operational, and output data for these facilities to verify that the industry’s performance claims are valid.

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Protecting Virginians from hazardous chemical spills

Throughout the Commonwealth, thousands of manufacturers and other businesses store hazardous chemicals in aboveground storage tanks. The quantity, location, contents, age, and condition of these tanks are unknown because owners are not required to register their tanks with the state’s Department of Environmental Quality (DEQ). Nor does Virginia impose comprehensive safety regulations for these hazardous chemical storage tanks, even though petroleum storage tanks have been regulated since 1998. As a result, communities at the fenceline of industry in Virginia face the risk of exposure to uncontained hazardous chemical spills, exacerbated by the growing risk of flooding and extreme weather.

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Addressing unregulated toxins to protect public health & the environment

Industrial toxins are a threat to our environment and our health — they can pollute the air we breathe, leach into our soils, and contaminate our drinking water. Many of these toxins have been linked to cancer, infertility, and other serious health impacts, yet they remain unregulated in the Commonwealth. Virginia should take action to identify and control sources of unregulated toxic pollution so that all communities benefit from clean air, clean water, and healthy soil.

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Protecting Virginia's environment & public health from industrial metal mining

Industrial metal mining is moving forward in the Commonwealth without a comprehensive regulatory framework, putting public health and the environment at risk. The heaviest burden is likely to fall on our most vulnerable communities. Communities most at risk from this extractive industry by pausing the permitting process for metal mining, studying the effects of such mining, and developing improved regulations.

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Decarbonizing Virginia's industrial pollution with low-carbon concrete

Virginia is on a path to decarbonize several sectors of the economy as the Commonwealth will reduce power plant carbon pollution to zero by 2050 and is also taking action on transportation through the Virginia Clean Car Standards and other laws enacted in 2021. However, the industrial sector, which accounts for approximately 10% of the state’s emissions and is considered difficult to abate, hasn’t received as much attention from policymakers. Carbon emissions from the concrete industry, however, can be addressed through incentives in the state’s concrete procurement process to begin to address this major pollution source in an industry-friendly, voluntary way.

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EXECUTIVE SUMMARY
Fossil fuel infrastructure negatively impacts public health and the environment and contributes to our climate crisis. In Virginia, projects like the fracked gas Mountain Valley Pipeline (MVP) perpetuate environmental injustice and hinder us from achieving the clean energy goals of our Commonwealth in an equitable manner. Pipelines like MVP represent an overbuild of gas infrastructure in the region and provide no true benefit for local communities. Like the similarly unneeded Atlantic Coast Pipeline (canceled in July 2020), MVP should be canceled. Legislators should adopt policies that recognize the severity of the climate crisis and strengthen protections for communities impacted by fossil fuel infrastructure.

CHALLENGE
The burning of fossil fuels harms public health and remains the major driver of our climate crisis. The fossil fuel industry perpetuates environmental injustice, epitomized in Virginia by the high number of facilities—including power plants, pipelines, compressor stations, and coal terminals—sited in Black, Indigenous, and low income communities.1 Pollution from fossil fuel infrastructure creates disproportionate health impacts in these vulnerable communities.2

Although Virginia has recently taken significant steps in advancing environmental justice, including passage of the Virginia Environmental Justice Act and laws addressing clean energy, the Commonwealth continues to license new fossil fuel supply in our net-zero greenhouse gas emissions pathway.3 The burning of fossil fuels harms public health or the environment from new fossil fuel infrastructure. To that end, fossil fuel and biogas projects (produced by the fermentation of organic matter) should receive stricter review, including full environmental justice reviews. Thorough site suitability investigations including cumulative health and environmental impacts on nearby communities are also needed. Enforcement of pollution laws must be prioritized, and polluters must be held fully accountable, regardless of project completion. Review processes should include bonding requirements for appropriate funding or insurance coverage, and include environmental restoration requirements.

Additionally, Virginia lawmakers should strengthen “project reviews” (including federal interstate projects) by increasing public involvement and participation in those reviews. Ultimately, legislative improvements that adequately account for the climate crisis, prevent future harm, and restore communities impacted by existing projects, are required.

SOLUTION
Fossil fuels are the energy of Virginia’s past, not our future. Given the steps necessary to mitigate the worsening climate crisis, and the need for a clean, equitable energy future as laid out in legislation including the Virginia Environmental Justice Act and the Virginia Clean Economy Act, new fossil fuel generation and associated infrastructure should not be pursued. Absent a ban, any new fossil fuel build out, including both interstate and intrastate pipelines, must be strictly and holistically scrutinized.

We have learned from the Atlantic Coast and Mountain Valley pipelines that current laws and regulations do not adequately protect public health or the environment from new fossil fuel infrastructure. To that end, fossil fuel and biogas projects (produced by the fermentation of organic matter) should receive stricter review, including full environmental justice reviews. Thorough site suitability investigations including cumulative health and environmental impacts on nearby communities are also needed. Enforcement of pollution laws must be prioritized, and polluters must be held fully accountable, regardless of project completion. Review processes should include bonding requirements for appropriate funding or insurance coverage, and include environmental restoration requirements.

POLICY RECOMMENDATIONS
Add a site suitability requirement to Va. code section § 62.1-44.15:81 that includes consideration of environmental justice. Include bonding/restoration requirements in permit applications for fossil fuel and biogas projects.

Require an individual Virginia Water Protection Permit and Uplands Certification under Article 2.6 of the State Water Control Law for all natural gas transmission pipelines 26 inches inside diameter and greater that are subject to § 7c of the Natural Gas Act.

Require DEQ approval for pipeline variances submitted to FERC that could affect water quality, or impact the 401 certification (as allowed by federal law).

Increase state review and oversight, via public participation, of pipelines, including those intended to transport biogas.
ENSURING ACCOUNTABILITY IN THE CHEMICAL CONVERSION INDUSTRY

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EXECUTIVE SUMMARY
Virginia’s waterways are under assault by single-use plastic trash that is carried by stormwater and thoughtlessly discarded as litter. The volume of plastic trash and the ongoing recycling crisis led the plastics and chemical industries to promote chemical conversion as a solution. Chemical conversion will not reduce the use of single-use plastics, it will incentivize its continued use and create demand for plastic as a feedstock for fuel facilities. Legislators and regulators must ensure that the industry does not pollute waterways, entrench our dependence on single-use plastics, and inequitably burden communities of color where chemical conversion plants are often sited. Industry accountability should include publicly available disclosure of intake, operational, and output data for these facilities to verify that the industry’s performance claims are valid.

CHALLENGE
Plastic pollution and the lack of an effective recycling industry has given the plastics and chemical industries an opportunity to market their “advanced recycling” technology as a solution. However, there is a complete lack of operating history to show that it works, and a complete lack of transparency when it comes to the pollution and environmental justice impacts of chemical conversion plants on the surrounding community.

Chemical conversion is an experimental process where plastic is melted down in an oxygen-free environment to render a raw material for more plastic production, or to mix with traditional petroleum for fuel. The American Chemistry Council has succeeded in convincing thirteen state legislatures to pass bills weakening or streamlining state regulation of chemical conversion facilities. SB1164 passed in Virginia in 2020, effectively exempting these facilities from regulation under the Solid Waste Management Act, where landfills, waste transfer facilities, and recycling facilities are routinely regulated.

SOLUTION
State solid waste management policy should focus on reducing single-use plastics in the waste stream and as litter, reusing products where possible, and if recycling is required, elevate solutions that “don’t downcycle.” Nascent technologies like chemical conversion should be robustly evaluated/reported and, if shown to be feasible, thoughtfully incorporated into best practices for litter reduction and plastic waste management.

Success or failure of this industry must be assessed by looking at the following metrics: total waste reduction, percent of plastic waste diverted from landfills, energy consumption and climate emissions impact, and reduced environmental harm for communities impacted by manufacture, storage, waste management, and transport of plastics.

POLICY RECOMMENDATIONS
Require a sophisticated regular reporting accountability system for chemical conversion facilities that includes data related to the intake, operational, and output aspects of the facility.

Mandate that any submitted permit application for a chemical conversion facility includes a robust public outreach effort that is fully compliant with Virginia’s current Environmental Justice policy.

Ensure that all aspects of the regular reporting system as well as the full submitted permit, community meeting and outreach schedule, and opportunities for virtual and in-person comments from the public are available in a prominent and easily accessible location.
PROTECTING VIRGINIANS FROM HAZARDOUS CHEMICAL SPILLS

EXECUTIVE SUMMARY
Throughout the Commonwealth, thousands of manufacturers and other businesses store hazardous chemicals in aboveground storage tanks. The quantity, location, contents, age, and condition of these tanks are unknown because owners are not required to register their tanks with the state’s Department of Environmental Quality (DEQ). Nor does Virginia impose comprehensive safety regulations for these hazardous chemical storage tanks, even though petroleum storage tanks have been regulated since 1998. As a result, communities at the fence line of industry in Virginia face the risk of exposure to uncontained hazardous chemical spills, exacerbated by the growing risk of flooding and extreme weather.

CHALLENGE
There are likely thousands of aboveground chemical storage tanks in Virginia, but regulators know little about their quantity, location, condition, and contents because the state does not register them.

In Virginia and nationwide, hazardous chemical facilities, many of which may have aboveground tanks, are disproportionately located near low-wealth communities of color, potentially exposing them to chemicals that increase the risk of cancer and respiratory disease. With more intense and frequent flooding in coastal communities, the hazards only worsen. A 2019 report found that over 2,700 flood-prone facilities in the James River watershed are located in the region’s most socially vulnerable census tracts.

One tract in the City of Chesapeake has 131 flood-exposed facilities and higher rates of poverty than the city overall. A failure of any of these facilities’ tanks could send toxic floodwaters into communities less equipped to recover.

CATASTROPHIC SPILLS FROM CHEMICAL TANKS

Catastrophic spills from chemical tanks have already occurred in Virginia. In 2008, a tank released 200,000 gallons of liquid fertilizer into the Elizabeth River, exposing nearby residents to toxic ammonia vapor and contaminating the water.

Catastrophic spills from chemical tanks have already occurred in Virginia. In 2008, a tank collapsed in Chesapeake, releasing 200,000 gallons of liquid fertilizer, which exposed nearby residents to toxic ammonia vapor and contaminated the Elizabeth River. After the spill, Virginia adopted rules for only the largest aboveground fertilizer storage tanks.

Other states are ahead. In 2014, a spill from a tank in Charleston, West Virginia caused devastating economic impacts and 300,000 residents to lose their drinking water. The corroded tanks were unregulated and had not been inspected in 23 years. West Virginia quickly enacted a comprehensive chemical tank law, imposing standards on over 42,000 aboveground storage tanks.

SOLUTION

In 2015, the General Assembly unanimously passed SB811, a law requiring DEQ to study gaps in Virginia’s chemical tank regulations. The study, jointly published with the Department of Emergency Management and Health, found a concerning lack of siting and public disclosure requirements and recommended a framework for a new tank registration and spill prevention program.

At a minimum, Virginia should establish an aboveground chemical storage tank program that requires registration and reporting on the quantity, condition, and contents of tanks. With this inventory, regulators and emergency managers can better plan for the flooding and other environmental hazards facing nearby communities. Additional spill response resources and public engagement are also needed to mitigate harm when spills occur, particularly for communities that face multiple disaster hazards from industrial pollution, climate impacts, and other social and environmental stressors.

Virginia should also adopt siting and construction standards to ensure that new tanks are installed in low-risk areas away from flood zones, overburdened communities, and drinking water sources. For new and existing tanks, the state should impose requirements for maintenance, inspections by qualified engineers, and reporting to ensure that tanks remain safe as they age and to minimize the resource burden on DEQ.

And when the worst happens, mandatory comprehensive spill prevention planning and practices will provide another essential layer of safeguards for human health and the environment.
EXECUTIVE SUMMARY

Industrial toxins are a threat to our environment and our health — they can pollute the air we breathe, leach into our soils, and contaminate our drinking water. Many of these toxins have been linked to cancer, infertility, and other serious health impacts, yet they remain unregulated in the Commonwealth. Virginia should take action to identify and control sources of unregulated toxic pollution so that all communities benefit from clean air, clean water, and healthy soil.

CHALLENGE

In recent years, concern has grown about industrial toxins that have serious effects on human health and the environment but are not yet controlled by regulatory standards. Per- and polyfluoroalkyl substances (PFAS), a family of thousands of man-made chemicals, represent potent examples of such chemicals. PFAS are toxic, bioaccumulative, and extremely persistent, and for these reasons are commonly referred to as “forever chemicals.” Studies suggest that human exposure to these chemicals may adversely affect fertility, raise cholesterol levels, and increase the risk of some forms of cancer. We come into direct contact with PFAS through their usage in items like waterproof gear, food packaging, firefighting foam, and non-stick pans. Concentrated streams of these chemicals can also be released into our environment — including our drinking water — by industries, wastewater treatment plants, and landfills.

In 2021, the Department of Health is scheduled to complete a study on the toxicity and prevalence of some PFAS in our drinking water. The State Board of Health will then work to establish drinking water standards for PFAS and two other contaminants, chromium-6 and 1,4-dioxane.

Downstream communities, however, too often suffer the health consequences of avoidable pollution and shoulder the costs of removing industrial toxins from their drinking water. Many communities are also exposed to multiple toxic pollutants, and toxic facilities — like landfills, hazardous waste sites, and other industrial facilities — are more often concentrated in low-income communities and communities of color. In regards to PFAS, a study found that low-income communities and communities of color are more likely to live within five miles of a site contaminated by PFAS.

SOLUTION

While drinking water standards are an important component of protecting public health, ultimately this pollution issue must be tackled by addressing PFAS in consumer products, manufacturing processes, and industrial discharges. The Commonwealth should identify and control pathways of PFAS, 1,4-dioxane, and other industrial toxin pollution and put the responsibility on polluters — not communities — to clean up their waste in order to protect public health and the environment in an effective and equitable way.

POLICY RECOMMENDATIONS

Require industrial users to disclose all chemicals released in their discharges as required by the federal Clean Water Act, through Virginia’s wastewater permit and industrial pretreatment programs.

Identify and eliminate potential pathways for PFAS contamination, which include: (i) wastewater discharges; (ii) land-applied biosolids; (iii) landfill leachate; (iv) air pollution; and/or (v) food packaging and consumer products.

Ensure that the Department of Health establishes drinking water standards for PFAS, 1,4-dioxane, and chromium-6 that fully protect public health.

Identify other unregulated toxins that may be of particular concern and assess how to control these chemicals in order to protect human health and the environment.
PROTECTING VIRGINIA’S ENVIRONMENT & PUBLIC HEALTH FROM INDUSTRIAL METAL MINING

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EXECUTIVE SUMMARY

Industrial metal mining is moving forward in the Commonwealth without a comprehensive regulatory framework, putting public health and the environment at risk. The heaviest burden is likely to fall on our most vulnerable communities. Surface and groundwater contamination are potential outcomes of these mining activities. Remediation of negative impacts is impossible in the context of outdated regulations.

We must support communities most at risk from this extractive industry by pausing the permitting process for metal mining, studying the effects of such mining, and developing improved regulations.

Virginia must fully execute the work group study defined in HB2213, fund its work, and address a broader scope of elements identified as ripe for review in the Commonwealth.

CHALLENGE

In Virginia, a large gold-pyrite belt stretches from Halifax to Fairfax County. This geological structure contains metals like iron, gold, copper, zinc, and pyrite. This belt crosses the James River, a source of drinking water for 2.7 million people, and intersects innumerable Virginia communities, many of which are Environmental Justice communities.

Metal mining is the nation’s #1 toxic polluter and is land intensive; existing open-pit mine sites in other states cover thousands of acres. As the Commonwealth spends millions to restore the Chesapeake Bay and reduce nutrient and sediment discharges across the watershed, it makes no sense to introduce this significant new source of pollutants to the watershed without a careful study of its potential impacts on water quality and the ability for Virginia’s regulatory programs to prevent such impacts.

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Mining companies have been prospecting around Virginia’s gold-pyrite belt for at least the last five years, recently announcing “high grade” findings. Large-scale gold mining has not occurred in Virginia for over 100 years. This type of industrial mining involves processes that result in perpetual acid mine drainage, catastrophic waste containment failures, the destruction of cultural heritage, and the devastation of local economies as a result of the boom and bust cycle of the metal mining industry.

Virginia’s regulations are not currently designed to address modern-day industrial base and precious metal mining. In 2021, the General Assembly passed legislation — HB2213 — to study the effects of gold mining on the Commonwealth and assess current regulations’ abilities to protect the public health, safety, and welfare of Virginians. That study focuses on gold and is currently in process. While we await its results, the industry continues to work toward opening mines across Virginia.

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SOLUTION

HB2213 started a crucial review process, establishing a work group to evaluate impacts of gold mining on public health, safety, and welfare. The news that prospecting companies are swiftly pursuing other base and precious metals such as copper, zinc, and lead, creates greater urgency for broader analysis of existing regulations. The threat of large-scale mining is truly Virginia-wide, and would have both short- and long-term impacts, so existing bonding, reclamation, closure, and monitoring regulations must be comprehensively evaluated and updated.

Therefore, any workgroup, and subsequent study and review processes, must include robust public engagement and education. Financial and environmental tolls of reclamation should also be part of any evaluations, and should not be overlooked because our current regulatory standards are either non-existent or outdated.

Funding for these next steps must be prioritized in the 2022 legislative session, with budgeting allotted for the second year of HB2213’s study. Regulations regarding additional metals, including copper, zinc, and lead, should also be reviewed. Additionally, companies’ pursuits of projects while studies are underway reinforces the need for the Commonwealth to press ‘pause’ on permitting. The granting of permits without sufficient knowledge of project impacts, or with deficient regulatory oversight of impacts can lead to environmental and economic devastation.

POLICY RECOMMENDATIONS

Execute robust public engagement within the work group review process as written and intended by HB2213 (2021).

Ensure the Department of Energy has the necessary funding to execute the studies and analysis needed.

Analyze current regulations regarding base metals, such as copper, zinc, and lead, that are mined and/or processed using similar techniques.

Establish a moratorium on permitting any large-scale mining of gold, copper, lead, and zinc operations within the Commonwealth until the analysis of mining regulations based on study results is complete.

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EXECUTIVE SUMMARY
Virginia is on a path to decarbonize several sectors of the economy as the Commonwealth will reduce power plant carbon pollution to zero by 2050 and is also taking action on transportation through the Virginia Clean Car Standards and other laws enacted in 2021. However, the industrial sector, which accounts for approximately 10% of the state’s emissions and is considered difficult to abate, hasn’t received as much attention from policymakers. Carbon emissions from the concrete industry, however, can be addressed through incentives in the state’s concrete procurement process to begin to address this major pollution source in an industry-friendly, voluntary way.

CHALLENGE
Concrete is the world’s most common construction material. Its main binding ingredient, Portland cement, accounts for roughly 7% of global carbon emissions. A range of established and emerging production changes, made on a voluntary basis, can significantly reduce the climate impact of concrete. This includes technologies that utilize and store carbon from industrial sources in the material’s different components and production processes. In short, the technology is here to make lower-carbon concrete on the producer side.

SOLUTION
Because the State Department of Transportation and related agencies are among the largest purchasers of concrete in Virginia, Virginia government purchasing can accelerate market demand for low-carbon alternatives in the private sector through the state’s ongoing procurement process. Indeed, concrete procurement is a major state opportunity to use its power of the purse to reduce carbon pollution from industrial sources. Accordingly, a number of states, municipalities, and counties have proposed or implemented climate-based procurement initiatives to capitalize on this opportunity.

Specifically, a market-based approach can encourage concrete producers to incorporate carbon-reducing methods and products into their bids for state contracts. Lower-carbon mixes – as measured by standardized, third-party lifecycle analyses – gain a competitive advantage during the state’s bid evaluation and therefore a greater likelihood of winning contracts. This market-based approach enlists market efficiency to select for positive climate outcomes, builds demand for long-term innovation, and limits fiscal impact and bureaucratic complexity.

Here’s how it works:
• For Virginia concrete contracts, bidders may choose to voluntarily submit Environmental Product Declarations (“EPDs”) in their bid proposals, to quantify the environmental impact of the concrete across the entire production process. The Global Warming Potential (GWP) measures the carbon pollution associated with concrete production.
• Bidders who submit EPDs are eligible for a “shadow” price discount in the procurement process that automatically (but artificially) lowers their bid, for the purpose of the state’s bid selection: the more climate-friendly a bid is, the more likely it is to win the contract.
• The bid with the top-performing (i.e. lowest) GWP score receives a maximum discount of 5%, which effectively “caps” the premium the state pays for cleaner concrete at 5%.

POLICY RECOMMENDATIONS
Incentivize cleaner concrete through the state’s ongoing procurement process. Reform the state’s concrete performance to reward clean and green innovation.