



184 Main Street • Port Washington • New York 11050 • T 516.883.0887 • www.grassrootsinfo.org
P.O. BOX 848 • White Plains • New York 10602 • T 914.422.3141

June 30, 2022

Comments on the Draft New York State Scoping Plan

Grassroots Environmental Education is a science-based environmental health nonprofit that educates the public regarding the link between environmental exposures and human health and environmental impacts through the development of evidence-based resources, solution tools and educational programs with an emphasis on protecting our most vulnerable, our children. Grassroots serves local and state governments, health care providers, school systems and environmental and health organizations nationwide.

We appreciate this opportunity to comment on the Draft Scoping Plan. We consider these areas to be high priorities to address in the Climate Action Council's Scoping Plan and have also included other critical solution steps to meet the goals of the Climate Leadership and Community Protection Act (CLCPA).

Introduction

First and foremost, the Climate Action Council Scoping Plan, State agencies, the legislature, the mandated investments and all communities must address the legacy of environmental racism and prioritize racial justice and ensure climate justice.

Heavily polluting facilities are usually located in Disadvantaged Communities that are disproportionately impacted with significant adverse health effects, including higher rates of respiratory and lung disease, cardiovascular problems and adverse birth outcomes.

There is no substitute for directly reducing fossil fuel emissions and other pollutants, which are sourced from fossil fuel feedstock. Such reductions are critical to achieving climate targets as well as environmental justice goals as pollution hotspots disproportionately burden low income communities and communities of color. Significant and expeditious investments in Disadvantaged Communities are imperative to address climate and environmental concerns including pollution, flooding and extreme heat. Community-based organizations and residents should be directly engaged in the planning, decision making and implementation of projects in their communities focused on community concerns, voices and visions. Utmost urgency should be directed to swiftly and dramatically reduce greenhouse gases and co-pollutants as well as address pollution prevention, green infrastructure and open spaces.

It is clear that the environment plays a major role, especially air pollution, in causing and exacerbating the underlying medical conditions, such as cardiovascular and respiratory disease, which increase susceptibility to COVID-19. This has drawn urgent attention to how public officials and regulatory agencies prepare and protect residents, especially our most vulnerable populations including children, developing fetuses, seniors, individuals with existing cardiovascular and lung disease, low income communities and communities of color.

Emerging scientific studies across the globe reveal that there is a significant relationship between air pollution and COVID-19 infection. A recent Harvard study,¹ found a link between air pollution over many years with an 11% increase in mortality from COVID for every 1 microgram per cubic meter increase in air pollution. The findings emphasize the urgency of regulatory and legislative efforts to significantly reduce pollution.

New York State should provide technical support and assist in developing model laws to identify and amend local policies that contradict the State's climate and environmental policies. Further, it is imperative that the State explore strategies to reconcile local policies, including those not directly related to the environment, with the CLCPA.

It is recommended that all municipalities and local governments develop climate and air quality plans that are consistent with the CLCPA's emissions limits and equity provisions and the State provide support and resources for the development and implementation of those plans, recognizing that community needs may vary.

False Solutions

It is imperative that New York State recognizes and rejects false climate solutions such as hydrogen, "renewable natural gas" (RNG), carbon capture technologies and small nuclear reactors.

Carbon capture and storage (CCS) technologies are very expensive and experimental. Research has shown that it increases air pollution and at best removes only a small fraction of carbon.² For CCS equipment to capture CO₂ from the smokestack of a power plant, it requires energy to operate. To produce this energy, the power plant must burn 10% to 40% more fuel than a similar plant without CCS. Some toxicants emitted by fossil fuels used for CCS such as benzene, ethylbenzene, and n-hexane, are known reproductive or developmental toxicants and carcinogens. During the CCS process, CO₂ is pressurized and turned into liquid for transport. The pressurized pipelines used to transport CO₂ during the CCS process are sited near fossil fuel facilities and may leak or rupture, causing a dangerous

¹ Air Pollution and COVID-19 Mortality in the United States: Strengths and Limitations of an Ecological Regression Analysis. Wu. X.. Netherv. R.. et al. Science Advances. 6. 45. November 2020

² Stanford study casts doubt on carbon capture, October 2019

<https://news.stanford.edu/2019/10/25/study-casts-doubt-carbon-capture/>

accident that asphyxiates nearby residents. Recent studies show that CO2 could permanently contaminate underground aquifers, poisoning drinking water supplies. Once again this polluting infrastructure is disproportionately located in low-income neighborhoods and communities of color, increasing their risk of exposure to harmful chemicals and pollution.

Small modular reactors,³ another expensive, risky and untested reactor technology, would create more radioactive waste, per unit of electricity they generate, than conventional reactors by a factor of up to 30, according to a recent study and would require additional conditioning to make it safe to store in a repository.

Production and use of hydrogen and RNG results in significant greenhouse gas emissions and other adverse environmental impacts. Hydrogen creates significant emissions of nitrogen oxides, a precursor of ground-level ozone and fine particulate matter. These air pollutants degrade air quality, can cause serious health problems and disproportionately burden communities of color. Blending hydrogen with natural gas for building use is highly inefficient and does not reduce greenhouse gas emissions. Using hydrogen also poses serious risks to existing gas infrastructure. Most hydrogen produced today is gray hydrogen, an energy intensive process releasing greenhouse gas emissions and harmful co-pollutants including fine particulate matter, volatile organic compounds (VOCs) and nitrogen oxide. Investments in these false solutions will perpetuate the exacerbation of respiratory and cardiac diseases, cancer and other health problems in New York's Disadvantaged Communities that are already disproportionately burdened.

Recommendations

New York State must reject false climate solutions and investments in these unproven, non-renewable technologies such as hydrogen, "renewable natural gas" (RNG), carbon capture and storage (CCS) technologies and small nuclear reactors.

Waste

The waste you see in the trash can is only a fraction of the problem. For every can of garbage at the curb, there are 87 cans worth of materials that come from the extraction industries such as agriculture, mining and petroleum that manufacture finished products from these natural resources. Currently, our production – consumption-disposal system is an outdated 20th century linear approach going in one direction from resource extraction to manufacture, distribution, consumer use and disposal, totaling 42% of all U.S. greenhouse gas emissions. We are squandering resources and polluting our air, water and soil and accelerating our climate crisis.

³ Small nuclear power projects may have big waste problems – study, May 2022
<https://www.reuters.com/business/environment/small-nuclear-power-projects-may-have-big-waste-problems-study-2022-05-31/>

In the United States, nearly 80% of waste incinerators are located in low income communities and communities of color. Burning waste perpetuates environmental injustice and is a false solution to the problem of waste management. Waste-to-energy, chemical recycling, gasification, pyrolysis and other polluting and climate damaging destructive disposal systems are not aligned with New York's climate law.

Disadvantaged Communities where these facilities are sited are disproportionately impacted with significant adverse health effects, including higher rates of respiratory and lung disease, cardiovascular problems and adverse birth outcomes.

We draw your attention to Peekskill, New York, one example of an Environmental Justice community overwhelmingly burdened by environmental racism with a long history of numerous heavily polluting industries including the aging Wheelabrator incinerator, the number one polluter in the region. The facility is nearly 40 years old, well past the average age of incinerators - 23 years - at closure. The excerpt below was accessed from the 2010 Community-Based Environmental Justice Inventory for the City of Peekskill⁴

11. FINDINGS AND RECOMMENDATIONS

11.1 Findings

The City of Peekskill and its surrounding area has a number of unique physical and demographic characteristics that make it highly vulnerable to the risks of climate change. Based on 2000 Census data, Peekskill is predominately a community of color consisting of multi-ethnic populations, with the median household income found in the areas of high black and Hispanic demographics. Covering an area of approximately 4.5 square miles, Peekskill is burdened with one hazardous waste handler and two hazardous and solid waste facilities all housed in a predominantly Hispanic populated area. This report focused on four major and minor air polluters, 17 industrial and municipal surface water pollution sources and five toxic release sites (see Table 1). The neighborhoods within a 12.5-mile radius of downtown Peekskill (an area of 491 square miles) are home to at least:

- 2 hazardous waste handler,
- 7 hazardous waste facilities,
- 19 solid waste facilities,
- 27 major and minor air polluters,
- 87 industrial surface water sites,
- 20 municipal surface water sites,
- 15 toxic release facilities,
- 47 hazardous waste handlers, and
- 23 toxic release sites.³⁰⁶

⁴ Community-Based Environmental Justice Inventory for the City of Peekskill, Dec 2010
https://www.clearwater.org/wp-content/uploads/2011/03/CBEJI_FINAL-DRAFT-1-30-11-for-printing.pdf

There are over 350 million tons of plastic produced each year, of which only 5% is recycled down from 9%, according to a recent report from the Department of Energy. The U.S. generates the most plastic waste per capita of any country on the planet. Researchers estimate that between 1.13 million to 2.24 million metric tons of the United States' plastic waste enter the environment each year.

Due to exposure to the elements, plastic breaks down into microplastics, which are found in our air, water, soil and our bodies and bio-accumulate in our food chain. Recent research has shown that microplastic particles have been detected in human blood and throughout the body, especially lung tissue.

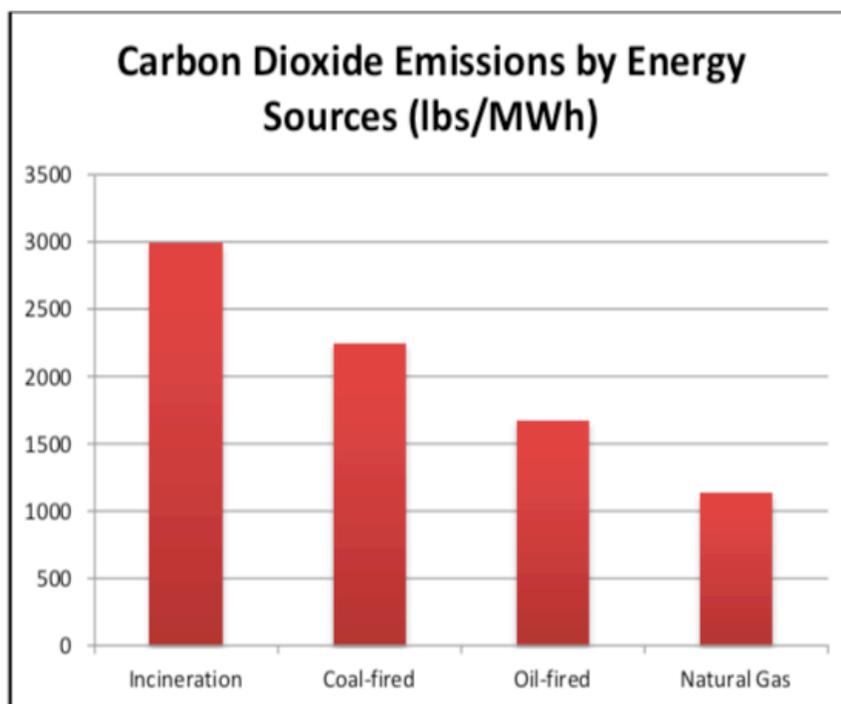
Air pollution particles are already known to enter the body and cause millions of deaths a year. According to the World Health Organization, air pollution is the most significant risk to health causing more than 7 million premature deaths each year. Reducing air pollution levels can significantly reduce the burden of disease from stroke, heart disease, lung cancer, and chronic and acute respiratory diseases including asthma. The WHO recently updated its Air Quality Guidelines – 2021,⁵ drastically slashing limits for particulates, nitrogen dioxide and other pollutants. The new limit for nitrogen oxide is 75% lower.

A recent report warns that the production and incineration of plastic will add more than 850 million metric tons of greenhouse gases to the atmosphere every year, which is equivalent to the emissions from 189 coal fired power plants. In the next 10 years, emissions from the plastics lifecycle could reach 1.34 gigatons per year, the equivalent of emissions from more than 295 coal fired power plants.

Greenhouse gas emissions from trash incineration are roughly twice that of landfilling the same waste, no matter the transportation distance involved. CO₂ emissions from trash incineration are 80% worse than burning coal. Incineration does not replace landfills, but makes them more dangerous by filling them with toxic ash. For every 100 tons of waste burned, about 30 tons of toxic ash are produced and shipped to landfills.

⁵ WHO slashes guideline limits on air pollution from fossil fuels, The Guardian, Sept 2021
https://www.theguardian.com/environment/2021/sep/22/who-cuts-guideline-limits-on-air-pollution-from-fossil-fuels?utm_source=ActiveCampaign&utm_medium=email&utm_content=Top+news%3A&utm_campaign=ATF+Daily

Table from U.S. EPA data: Greenhouse Gas Emissions from Incineration and Coal Plants



U.S. EPA, <http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html>

These incinerators are major sources of hazardous air pollutants. According to a 2011 analysis by the New York State Department of Environmental Conservation, the State's ten trash incinerators are dirtier than the 8 coal burning power plants that were still operating at that time. Incinerator facilities release prodigious amounts of particulate matter, heavy metals and volatile organic compounds (VOCs), which are precursors of ground level ozone pollution and a known cause of asthma, heart attacks, strokes, reproductive damage and preterm birth. Their toxic emissions include millions of pounds per year of human carcinogens, and other pollutants that are also linked to blood, immune, endocrine, and neurological disorders, respiratory, digestive and breast disease, congenital malformations and chromosomal abnormalities as well as adverse effects on pregnancy and childbirth. These are dangerous conditions especially for vulnerable populations including children, developing fetuses, seniors, individuals with lung and cardiovascular disease, low income communities and communities of color. Incinerators are also a major source of cancer-causing dioxins, the most toxic chemicals. Burning waste also emits 14 times more mercury than coal power plants. There is no safe level of exposure to mercury, which is linked to damage to the neurological, digestive and immune systems as well as to the lungs and kidneys.

Researchers are also now warning that incinerators are contributing to plumes of airborne PFAS pollution ⁶ and could be spreading PFAS significant distances contaminating water and soil. European researchers are finding alarming levels of PFAS downwind of incinerators. A recent study from Vermont found a downwind plume of PFAS dispersal that extended over roughly 125 square miles from a factory source. According to researchers, the logical conclusion is to assume similar transport patterns from incinerator stacks.

Note: Chemicals from consumer products and packaging including PFAS, formaldehyde, and arsenic, also significantly contaminate the leachate from landfills.

In contrast, a zero waste system is a cyclical, 21st century solution, the global choice for sustainable cities using a circular economy approach that involves redesigning our systems and resource use from product design to recovery to prevent wasteful, costly, polluting and climate damaging practices. Zero waste initiatives are flourishing worldwide with aggressive efforts to move away from incineration facilities. The Network of Zero Waste Municipalities in Europe has more than 350 active cities that are on the road to zero waste with some managing to divert more than 90% of their waste from landfills or incinerators. The C40 Declaration of 2018 further demonstrates the international shift away from waste incineration and towards zero waste. Municipalities all across the globe are making real progress toward the goal of zero waste, putting us on a path to avoid waste by eliminating materials that cannot be safely reused, recycled or composted.

The international peer-reviewed definition of Zero Waste: “Zero waste is the conservation of all resources by means of responsible production, consumption, reuse and recovery of products, packaging and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.”

Zero Waste International Alliance adopted the only internationally peer reviewed Zero Waste Hierarchy that focuses on the first 3Rs, Reduce, Reuse and Recycle including Composting. ⁷ (See graphic on next page)

⁶ PFAS in household waste may be going airborne, March 2022, Environmental Health News <https://www.ehn.org/pfas-air-pollution-2656977959/pfas-resist-thermal-degradation>

⁷ Zero Waste Hierarchy of Highest and Best Use, Zero Waste International Alliance <https://zwia.org/zwh/>



Rethink / Redesign

- Design and purchase products from reused, recycled or sustainably-harvested renewable, non-toxic materials to be durable, repairable, reusable, fully recyclable or compostable, and easily disassembled
- Shift funds and financial incentives to support a ***Circular Economy***** over the harvesting and use of virgin natural resources
- Enact new incentives for cyclical use of materials, and disincentives for wasting
- Facilitate change in how end users' needs are met from "ownership" of goods to "shared" goods and provision of services
- Support and expand systems where product manufacturing considers the full life-cycle of their product in a way that follows the Zero Waste Hierarchy and moves towards more sustainable products and processes. Producers take back their products and packaging in a system that follows the Zero Waste Hierarchy.
- Identify and phase out materials that cause problems for ***Closed Loop Systems****
- Facilitate and implement policies and systems to encourage and support ***Local Economies****
- Re-consider purchasing needs and look for alternatives to product ownership
- Provide information to allow for informed decision-making
- Be aware of and discourage systems that drive needless consumption

Reduce

- Plan consumption and purchase of perishables to minimize discards due to spoilage and nonconsumption
- Implement ***Sustainable Purchasing***** that supports social and environmental objectives as well as local markets where possible
- Minimize quantity and toxicity of materials used
- Minimize ecological footprint required for product, product use, and service provision
- Choose products that maximize the usable lifespan and opportunities for continuous reuse
- Choose products that are made from materials that can be easily and continuously recycled
- Prioritize the use of edible food for people
- Prioritize the use of edible food for animals

Reuse

- Maximize reuse of materials and products
- Maintain, repair or refurbish to retain ***Value*****, usefulness and function
- Remanufacture with disassembled parts; dismantle and conserve “spare” parts for repairing and maintaining products still in use
- Repurpose products for alternative uses

Recycle / Compost

- Support and expand systems to keep materials in their original product loop and to protect the full usefulness of the materials
- Maintain diversion systems that allow for the highest and best use of materials, including organics
- Recycle and use materials for as high a purpose as possible
- Develop resilient local markets and uses for collected materials wherever possible
- Provide incentives to create clean flows of compost and recycling feedstock
- Support and expand composting as close to the generator as possible (prioritizing home or on site or local composting wherever possible)
- Whenever home/decentralized composting is not possible, consider industrial composting, or if local conditions require/allow, anaerobic digestion

Material Recovery

- Maximize materials recovery from mixed discards and research purposes after extensive source separation
- If conditions allow, recover energy using only systems that operate at ***Biological Temperature and Pressure*****

Residuals Management

- Examine materials that remain and use this information to refine the systems to rethink, reduce, reuse, and recycle in order to prevent further discards
- Ensure minimization of impacts by means of biological stabilization of fermentable materials.
- Encourage the preservation of resources and discourage their Destructive Disposal or dispersal
- Plan systems and infrastructure to be adjusted as discards are reduced and its composition changes
- ***Minimize Gas Production and Release***** and maximize gas collection
- Use existing landfill capacity and maximize its lifespan. Ensure it is ***Responsibly Managed.*****
- Contain and control toxic residuals for responsible management

Unacceptable

- Don't support policies and systems that encourage the Destructive Disposal of organics and/or the destruction of recyclables
- Don't support energy and Destructive Disposal systems that are dependent upon the continued production of discards
- Don't allow the ***Incineration***** of discards
- Don't allow toxic residuals into consumer products or building materials

Zero waste initiatives are also cost effective. A report by the Institute for Local Self Reliance (ILSR)⁸ revealed the significant economic benefit that prompted Rhode Island legislators to pass a law in the early 1990s banning municipal solid waste incineration since they found it to be the most costly method of waste disposal with known and unknown escalating costs, which would place substantial and unreasonable burdens on both state and municipal budgets and jeopardize the public interest. The report also notes that recycling costs in Baltimore cost an estimated \$18 per ton while trash incineration costs almost three times that amount at approximately \$50 ton per ton, which translates into savings of over \$800,000 per year. Diverting organic waste would save millions of dollars in tipping fees each year.

⁸ Waste Incineration: A Dirty Secret in How States Define Renewable Energy, Dec 2018, Institute for Local Self-Reliance <https://ilsr.org/wp-content/uploads/2018/12/ILSRIncinerationFinalDraft-6.pdf>

RECOMMENDATIONS:

- Close all ten incinerators in New York and prohibit the construction of new incinerator facilities.
- Ban chemical recycling facilities, including but not limited to gasification and pyrolysis facilities.
- Require green procurement – Purchasing environmentally preferable products with minimal packaging.
- Restrict packaging materials in all purchasing of supplies.
- Mandatory residential and commercial recycling and food scrap recycling and composting as part of source separation law to include multi-family housing and public housing.
- Require retail outlets and food service establishments to provide reusable and refillable options for tableware.
- Establish and promote repair cafes and businesses and materials exchanges.
- Encourage sale of bulk items.
- Save as You Throw or Pay as You Throw by setting rates on a per bag or per container basis. This results in real waste reductions and cost savings for residents and has the capability of reducing waste as much as 44%. When combined with curbside composting collection, the average waste diversion rate reaches 70%. To accelerate participation in composting, trash can be picked up every other week while recycling and composting can be collected weekly.
- Require deconstruction by dismantling buildings instead of demolition that spreads dangerous dust into communities and turns valuable materials into construction and demolition waste, one of the largest waste streams.
- Support “Skip the stuff” restriction of single use restaurant straws, utensils and condiments, providing only upon request.
- Prohibit BPA and other toxic chemicals in register receipts, which are exposing the public to harmful substances and significantly contaminating the paper recycling stream.

SPECIAL CONSIDERATIONS FOR SYNTHETIC TURF

We recommend that the State prohibit the use of state funds for the procurement of synthetic turf fields and playgrounds and ban them on all state-owned property. These fields expose

children and adolescent athletes daily to multiple hazardous chemicals. Used or “scrap” rubber tires present significant solid waste management problems due to their vast quantities, toxicity and flammability.

Synthetic turf fields are comprised of a plastic carpet with plastic grass blades backed by latex and rubber pads glued together with polyurethane adhesive and then filled with thousands of pounds of waste tire crumb rubber or alternative infills. A typical football field uses approximately 40,000 shredded used tires.

When the field wears out in roughly 8-10 years or sooner, depending on usage, everything gets ripped up and replaced with more plastic and toxic compounds. Synthetic turf is unsustainable. Given New York State’s enactment of a polystyrene ban and plastic bag ban, why would there be any consideration of facilitating procurement and/or funding of acres and acres of plastic synthetic turf fields and play areas?

“Recycling” tires to use as infill for synthetic turf fields and playground areas is a false solution for handling hazardous tire waste and poses serious health, environmental and climate threats. The tire crumb rubber contains a myriad of toxic, restricted use chemicals including heavy metals, benzene, carbon black and volatile organic compounds, which are known carcinogens, neurotoxins and endocrine disruptors.^{9 10 11} Synthetic turf also contributes to heat island effects and significant chemical runoff, microplastic pollution and water and soil contamination.

There are no plans or guidance for synthetic turf disposal, yet they are projected to produce between 1 million and 4 million tons of waste in the next decade. The Resource Conservation and Recovery Act (RCRA) of 1976, our nation’s primary law governing disposal of solid and hazardous waste, gives the EPA the authority to control hazardous waste from “cradle-to-grave,” including used rubber tires. However, it also states that the recycling of a hazardous waste product into a usable consumer product automatically exempts it from RCRA requirements, even if the end product it creates is more toxic than other similar products on the market. This loophole means no monitoring follows the new products that have been manufactured for recycled hazardous waste, such as synthetic turf crumb rubber infill or recycled rubber playground surfaces.

⁹ Independent Science o Public Health Concerns Regarding Synthetic Turf
<https://www.grassrootsinfo.org/synthetic-turf-digest>

¹⁰ Position Statement on the use of recycled tires in artificial turf surfaces, Mount Sinai Icahn School of Medicine <https://icahn.mssm.edu/files/ISMMS/Assets/Departments/Environmental%20Medicine%20and%20Public%20Health/CEHC/CEHC%20Artificial%20Turf%20Position%20Statement%205.2017.pdf>

¹¹ Athletic Playing Fields: Choosing safer options for health and the environment, Toxic Use Reduction Institute, April 2019
https://www.turi.org/var/plain_site/storage/original/application/b9727dedf5860ae7e83e3226d058b7ee.pdf

Further, the plastic grass blades used in the synthetic turf carpets are also made from petroleum products and contain PFAS (“forever chemicals”) that accumulate in the environment and living organisms and threaten water sources. These chemicals can also volatilize, especially on hot, sunny days. Alternative infill materials can also contain toxic substances and plastic coatings.

EXTENDED PRODUCER RESPONSIBILITY

The legislature should enact a strong Extended Producer Responsibility (EPR) bill, which must contain provisions that include strong oversight originating at the state regulatory agency (DEC) with significant penalties, set requirements and standards for reduction, reuse, recyclability and recycled content. Eliminating toxic chemicals from plastic and paper packaging ensures that recycling must truly mean recycling and not a greenwashed definition that allows waste-to-fuel, waste-to-energy incineration, pyrolysis, gasification or chemical recycling, all of which cause more pollution and greenhouse gas emissions. The state must also fund municipalities to fix broken recycling systems and support projects that reduce packaging waste and create reuse and refill systems.

The legislature should enact an expanded bottle bill, which includes more types of bottles and increases the deposit from 5 cents to 10 cents.

Land Care

The importance of organic land care cannot be sufficiently emphasized and requires attention in the Scoping Plan. Organic best management land care practices exclude the use of pesticides and synthetic fertilizers, which are manufactured from petrochemicals. These practices promote soil health, which enhances natural carbon sequestration, reduces irrigation needs and prevents nutrient pollution from synthetic fertilizers that cause algal blooms in valuable water supplies. Organic land care eliminates toxic exposures to children, farmers, and gardeners and also protects pollinators, birds and other wildlife.

Pesticide use kills beneficial organisms in the soil and weakens plants making them vulnerable to disease and pest infestation. Pesticides can also poison birds, pollinators, fish, aquatic life and other animals. Research also links pesticide exposure to human health impacts¹² including neurological, reproductive and immune system damage, asthma, endocrine disruption, certain types of cancer and birth defects. Runoff and drift from pesticide applications also pollute ground and surface waters.

The manufacture of synthetic fertilizers is an energy intensive process, which releases 3% of the world’s carbon emissions. Fertilizers containing nitrogen and phosphorus are a source of

¹² Independent Science on Turf Pesticides and Children’s Health
<https://www.grassrootsinfo.org/pesticide-digest>

nutrient pollution. Storm water runoff can cause excess nutrients to wash away into waterways or leach into groundwater supplies, causing harmful algal blooms. Some of these blooms, such as cyanobacteria, produce toxins that are dangerous to communities, animals and aquatic life and can also become airborne, according to recent research.

The Scoping Plan must take full and accurate account of the emissions from the production of synthetic fertilizers and fossil fuel based pesticides as well as the oil and gas used as the energy source or feedstock. According to a report from the Institute for Agriculture and Trade Policy,¹³ the climate impacts of excessive use of nitrogen fertilizers is much worse than previously estimated and finds that the production and use of synthetic nitrogen fertilizers accounts for 2.4% of global emissions, making it one of the top climate polluting industrial chemicals, contributing more than six times the greenhouse gas emissions produced by the commercial aviation sector.

Exhaust emissions from fossil fuel powered lawn equipment can contain significant amounts of greenhouse gas emissions and toxic compounds linked to certain cancers, asthma and other respiratory problems, as well as damage to the heart, lungs and central nervous system. Toxins in the exhaust include benzene, 1,3-butadiene, toluene, formaldehyde, and other polycyclic aromatic hydrocarbons (PAHs). When compared to an average vehicle, one hour of gas leaf blower use emits 498 times as many hydrocarbons, 49 times as much particulate matter and 26 times as much carbon dioxide.

Gas leaf blowers, which are routinely used on residential and commercial properties, blow dust and debris into the air which can contain mold and fungal spores, insect eggs, pollen, dried animal waste and pesticides. These harmful pollutants can linger in the air for hours, settle on windowsills or enter residential and commercial buildings through windows and doors. Even brief exposures can be harmful.

Children are most susceptible since they breathe more air per pound of body weight than adults. When exposed to even small amounts of toxic chemicals at critical periods of development, they can suffer from acute and long term effects. The noise level of the equipment can far exceed levels recommended by the World Health Organization and can be damaging to hearing, increase blood pressure, adrenaline and heart rates.

Frequent spilling and overfilling of equipment can result in the release of volatile organic compounds (VOCs), which react with sunlight to produce ground level ozone pollution. Spilled gasoline can seep into groundwater and waterways, affecting drinking water and polluting rivers, lakes and oceans.

Recommendations

Prohibit the aesthetic use of pesticides and synthetic fertilizers on all state property.

¹³ New research shows 50 year binge on chemical fertilizers must end to address the climate crisis, Nov 2021, Institute for Agriculture and Trade Policy
<https://www.iatp.org/new-research-chemical-fertilisers>

Promote a systems approach for turf care utilizing readily available and cost effective organic land care practices that eliminate damaging fossil fuel-based pesticides and fertilizers, build soil health and promote natural carbon sequestrations.

Phase out the use of fossil fuel driven lawn and land care equipment, especially the use of gas leaf blowers. Begin by prohibiting the use of gas leaf blowers from May through October. Legislation for electrification of leaf blowers should be moved up to an earlier date and limit the use of electric leaf blowers to spring and fall clean up.

Buildings

Another aspect of buildings that should be addressed, are the environmental toxins in the manufacture of the products used to maintain them and the management of those materials.

Unfortunately, many products typically used in the construction and renovation of homes and apartments and other buildings contain chemicals that can be harmful. Carpeting, paints and stains, cabinets, paneling and treated wood can all pose a potential threat to the health of the occupants and have a significant environmental and climate impact from their life cycle.

The chemicals used in the production and installation of commercial and residential carpeting are "volatile organic compounds," or "VOCs." Some VOCs commonly found in carpets, carpet backing and adhesives include benzene, styrene, toluene, xylene, and formaldehyde. Long-term exposure to these chemicals has been linked to certain types of cancer, endocrine disruption and birth defects. These chemicals also contaminate the waste stream (See Waste section)

Most commercial paints and stains also contain VOCs. Propane sulfone, for example, is a powerful known carcinogen and is widely used in paints. Inhalation and skin absorption are the most common routes for exposure.

Cabinets and wood paneling can be a major source of harmful VOCs, due to the fact that they are often manufactured from engineered wood products such as plywood, particleboard, and medium density fiberboard (MDF). These materials use resins containing urea formaldehyde, which is a known carcinogen.

Processed or pressure-treated wood is frequently used as a construction material for playgrounds and outdoor furniture or decking. To prevent pest infestation and rotting, the wood is impregnated with chemicals. Until 2002, the chemical most widely used for this purpose was chromated copper arsenate, or "CCA." Older wood decks or other outdoor construction that cannot be removed or replaced, should be sealed annually with several coats of water-based latex paint or oil-based sealant to slow the rate of leaching.

Recommendations

The State should promote the use of healthy and environmentally preferable building materials and bio-based products and require green procurement practices for all state owned buildings and property.¹⁴

See Waste section for additional discussion and recommendations regarding the Zero Waste Hierarchy, Circular Economy and Extended Producer Responsibility

Expand green procurement resources and make them readily available.

Fossil Fuel Infrastructure and Waste

“Downsizing the fossil gas system” as noted in the Draft Scoping Plan requires clear and definitive targets. The State’s Scoping Plan should reflect working towards the target of dismantling the natural gas distribution system by 2050. In order to transition away from reliance on natural gas, the process must accelerate to electrify buildings and invest in non-pipeline alternatives instead of spending ratepayer dollars on a gas system that will eventually become stranded assets and obsolete. It is crucial for the gas system to be dismantled in an orderly, expedient and equitable manner. Existing fossil fuel facilities and resources must retire and/or dramatically reduce operating in order to meet the climate law’s mandates by 2030. Adding new gas resources and perpetuating others indefinitely will make it far worse for New York State to transition away from its dependence on fossil fuels and comply with mandates.

New York State cannot afford to continue emitting greenhouse gases in sectors that can feasibly electrify including heating and cooking. Statewide buildings must implement energy efficiency measures and must be electrified with energy efficient heat pumps in order to meet the climate mandates.

New York State must deny new permits for gas infrastructure projects to be in compliance with the climate law, which gives state agencies the authority to deny permit applications where the project is inconsistent with or interferes with the climate mandates for greenhouse gas limits and interferes with meeting statewide greenhouse gas emissions limits.

It is also important to recognize and address projects and infrastructure that facilitate the expanded or prolonged use of fossil fuels, which are inconsistent with the climate law. New York State cannot on one hand impose greenhouse gas limits while at the same time perpetuate or incentivize the use of gas.

It is imperative to also take into full account and drastically reduce and eliminate the greenhouse gas emissions and co-pollutants throughout the life cycle of fossil fuel generation including upstream emissions even from out-of-state.

¹⁴ How Green Is My Town www.howgreenismytown.org

Where are all of the wastes going from fossil fuel life cycle activities and why should we be concerned?

Over 608,000 tons of fracking waste have been accepted in five New York landfills according to Pennsylvania DEP data. More than 23,000 barrels of liquid fracking waste have also been accepted in New York.¹⁵ New York State has permitted the use of production brine and storage brine from low volume oil and gas extraction and storage facilities on roads for de-icing, dust suppression and road stabilization through the use of Beneficial Use Determinations (BUDs).

Fracking waste materials from oil and gas facilities include radioactive materials, volatile organic compounds and heavy metals. Recent research has also revealed that PFAS (“forever chemicals”) are used in the fracking process.

Due to the huge volumes of of fracking waste produced, industry is increasingly interested in repurposing waste byproducts e.g. by processing or dewatering the waste and using the salts for ice melt. These fracking waste constituents could be even more hazardous containing high levels of radioactive materials and other contaminants.¹⁶

Landfill disposal of radioactive waste from oil and gas extraction, production and storage operations could contaminate them for thousands of years. All landfill membranes fail eventually and leaching or flooding could result in contamination of nearby ponds, streams, or groundwater. Leachate from landfills is a frequent cause of groundwater contamination and its disposal cannot be safely handled by wastewater treatment facilities or via applications on farmland or other real property.

Wastewater treatment facilities are not designed to treat chemicals, contaminants and highly radioactive materials produced from hydrofracking operations. High bromide levels in oil and gas waste byproducts are highly corrosive to equipment and can react during water treatment to form brominated trihalomethanes linked to bladder and colon cancers and are associated with birth defects. Once added to drinking water supplies, trihalomethanes are difficult to eliminate.

Vehicles transporting radioactive fracking waste byproducts increase the risk of human and animal exposure and contamination of water, air, and soil when accidents, leaks, and spills occur. Road spreading applications can expose drivers, passengers, pedestrians and animals to radioactive materials while contaminating nearby surface waters, residential and school properties and other land areas. Radioactive particles may become airborne as trucks and passenger vehicles travel along roads and can be tracked on tires into driveways and garages and ultimately tracked in on shoes into homes. Rain and snowmelt carrying radioactive materials can run off road surfaces where it can migrate onto nearby property and into streams, ponds and irrigation systems, leach into soil or seep into groundwater. These

¹⁵ License to Dump, 2015 https://eany.org/eanypdfs/license_to_dump.pdf

¹⁶ Earthworks, “Wasting Away: Four States’ Failure to Manage Gas and Oil Field Waste from the Marcellus and Utica Shale”, April 2015.

numerous pathways of exposure pose increased risk for human and livestock inhalation and ingestion of highly radioactive materials, and carcinogenic and endocrine disrupting chemicals.

In his report, **Consideration of Radiation in Hazardous Waste Produced from Horizontal Hydrofracking**,¹⁷ Ivan White, a staff scientist for the congressionally commissioned National Council on Radiation Protection stated¹⁸ that radioactive materials can migrate through air exposing crops, plants, soil, animals, livestock, food supplies and humans. These contaminants can also migrate through soil and surface or groundwater exposing sand and sediment, aquatic animals and plants, fish, irrigation water, vegetation, animals, livestock, food supplies and humans. He warned that the type of radioactive material found in the Marcellus Shale formation and brought to the surface by hydrofracking is the type that has a long half-life and could easily bio-accumulate over time delivering a dangerous radiation dose to potentially millions of people long after the drilling is over.¹⁹

According to a U.S. Geological Survey study, levels of total Radium tested in the wastewater from eleven active New York vertical gas wells averaged over 8,400 pCi/L exceeding the EPA's maximum contaminant level for drinking water, which is 5 pCi/L for combined Radium-226 and Radium-228, by more than 1,000 times.²⁰

Recommendations

Public policy should not promote the burning or use of natural gas. The New York State legislature should adopt legislation to end costly ratepayer subsidized gas expansion. Rebates and incentives for gas equipment offered by utilities and NYSEERDA must be immediately terminated.

The legislature and the DEC should strengthen and amend legislative and regulatory frameworks to ensure the prohibition of the use, application or disposal of fracking waste on roads or in any wastewater treatment facilities or landfills.

SPECIAL CONSIDERATION FOR THE DENSE FOSSIL FUEL INFRASTRUCTURE CO-LOCATED AT THE INDIAN POINT NUCLEAR PLANT

New York State must urgently advocate for the shutdown and purge of the three massive Algonquin gas transmission pipelines dangerously co-located at the Indian Point nuclear plant, the only co-location of this kind in the nation. The plant is undergoing decommissioning activities where heavy deconstruction and excavation activities can jeopardize pipeline integrity with catastrophic consequences for the region and all of New

¹⁷ https://www.grassrootsinfo.org/_files/ugd/2cea04_e23372e8006f418ea8c9b32993cd088b.pdf

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ E. Rowan, M. Engle, Radium content of oil and gas field produced waters in the northern Appalachian Basin, U.S. Geological Survey Report 2011-1135

York. Shutting the Algonquin gas transmission pipelines during decommissioning activities was raised by New York State agencies in their 2018 letter to the Federal Energy Regulatory Commission (FERC) and the Pipeline Hazardous Materials Safety Administration (PHMSA) and was also mentioned by pipeline expert, Mr. Rick Kuprewicz, in his 2018 letter in response to the New York State agencies' letter. Although, activities near or in pipeline Rights of Way are generally prohibited, at this dangerously co-located site, there are no above ground ROW markers and there appears to be no onsite supervision by Enbridge, the pipeline operator, despite standard requirements to supervise any excavation operations or ground disturbance near pipelines' Rights of Way. Furthermore, there is lack of emergency planning.

Peekskill, the frontline community, as described earlier in this document, is an Environmental Justice community.²¹ It is overburdened with the serious health and environmental impacts from legacy and continuous pollution from numerous industries for decades including the 40-year old incinerator as well as the disastrous Indian Point site with its catastrophic risks. This urgent matter requires immediate attention. Our climate law mandates the protection of Disadvantaged Communities.

Cryptocurrency Mining

We commend the NYS DEC for denying the Title V Air Permit for the Greenidge Generating Station, a once shuttered coal power plant that was repowered a few years ago and was converted into an energy intensive proof of work cryptocurrency mining operation.

We also commend the New York State Legislature for recently enacting legislation to establish a two-year moratorium for proof-of-work cryptocurrency mining operations at fossil fuel power plants and conduct a full generic environmental impact statement to ensure these operations do not conflict with the mandates of the CLCPA. The Governor's immediate signing of the moratorium bill is imperative and should be grounded in the same science and climate law as the DEC decision to deny the Title V Air Permit for the Greenidge facility.

Without an immediate moratorium, a rapidly growing number of dirty fossil fuel power plants across New York could begin repowering or expanding as extremely energy intensive cryptocurrency mining facilities with disastrous consequences for statewide CO2 equivalent emissions and derail compliance with the goals and mandates of New York's climate law.

It is well documented that proof-of-work blockchain mining is extremely energy intensive and has been shown to rival the energy consumption of entire countries like Argentina. Other forms of blockchain mining such as proof-of-stake, proof-of-authority and proof-of-burn are much more energy efficient. Indeed, proof-of-stake mining methods utilize 99% less energy than proof-of-work mining.

²¹ Community-Based Environmental Justice Inventory for the City of Peekskill, Dec 2010
https://www.clearwater.org/wp-content/uploads/2011/03/CBEJI_FINAL-DRAFT-1-30-11-for-printing.pdf

In 2021, the estimated annual energy usage of the Bitcoin network alone increased from 77.78 Terrawatt hours (TWh) to more than 198 TWh. The Ethereum network's estimated annual energy usage over the same period increased from 14.81 TWh to more than 92 TWh. This is a troubling trend, especially when compared with the estimate of 68.61 TWh for annual electricity consumption noted by the New York Power Authority (NYPA) in its 2018 report.

A significant increase in energy demand from energy consumptive cryptocurrency mining for the purpose of private gain when it is imperative during a climate emergency for fossil fueled power plants to reduce operating will also strain the state's energy resources and negatively impact electricity rates. In Plattsburgh, New York, during the winter of 2018, cryptocurrency mining operations made up 20% of total energy consumption, forcing the city to exceed its allotment of cheap hydroelectric power and purchase additional power at extra expense to residents.

Fossil fueled power plants are also major sources of hazardous air pollutants including particulate matter, sulfur oxide, nitrous oxide and volatile organic compounds, which are precursors of ground level ozone pollution and a known cause of asthma, heart attacks, strokes, reproductive damage and preterm birth. Their toxic emissions include millions of pounds per year of human carcinogens, and other pollutants that are also linked to blood, immune, endocrine, and neurological disorders, respiratory, digestive and breast disease, congenital malformations and chromosomal abnormalities as well as adverse effects on pregnancy and childbirth. These are dangerous conditions especially for vulnerable populations including children, developing fetuses, seniors, individuals with lung and cardiovascular disease, low income communities and communities of color. Water quality is also seriously threatened by these operations, which involve the withdrawal of enormous quantities of water on a daily basis to cool equipment, killing thousands of fish every year and contributing to harmful algal blooms when the heated water is returned to its source.

The environmental impacts affect us all across New York, especially Environmental Justice communities that are often near these fossil fuel power plants and have been disproportionately impacted by many decades of continuous pollution.

Recommendations

The Governor's immediate signature on the proof of work cryptocurrency moratorium bill.

Fiber optic to and through the Premises (FTTP)

Researchers have been warning that energy consumption of 5G and wireless devices is projected to dramatically rise due to the increasing energy intensive demands of the lifecycle of 5G equipment, from device manufacture to high powered data centers, transmissions and vast dense networks. The carbon footprint of the global digital system is

already at 4% of global greenhouse gas emissions with its energy consumption rising by 9% per year.²² Fiber optic to and through the Premises (FTTP) is far more energy efficient, cheaper, faster, reliable and safe. Recently the National Telecommunications and Information Administration announced that it requires that new priority broadband projects must use fiber optic from end to end.²³

Peer reviewed research²⁴ shows adverse biological effects from radiofrequency (RF) radiation exposures, even at levels below thermal thresholds, including DNA damage, oxidative stress, neurological, cardiovascular and reproductive damage and certain cancers. Vulnerable populations include developing fetuses, children, the elderly and those with cardiac and neurological problems as well as those with implanted medical devices. Studies show that there are harmful effects on skin, eyes and testes from exposure to the millimeter waves that are used in 5G wireless technology. Young children are especially vulnerable to environmental toxins including RF radiation. They have thinner skulls so the radiation from a cell phone penetrates deeper into their brains. Other physiological differences due to their developing bodies also increase their vulnerability. A groundbreaking peer reviewed study shows that in order to protect children their exposure should be 200-400 times lower than the Federal Communications Commission's limits and exposure for adults should be 20-40 times lower than those limits.

Furthermore, the American Academy of Pediatrics also warns that current exposure standards do not account for the unique vulnerability and use patterns specific to pregnant women and children.

Peer reviewed studies also demonstrate environmental effects including adverse biological effects on pollinators, birds, plants and trees from exposure to RF radiation. Pollinators can absorb more of the higher frequencies used in 5G technology, which could lead to changes in insect physiology, behavior and morphology. Studies also show that RF radiation exposure can disrupt the magnetic "compass" that many migrating birds and insects use, causing disorientation and potential interference with migration patterns and can damage their development and reproduction. Trees are also impacted by these exposures, including adverse biochemical changes, thinner cell walls, and altered growth.

The U.S. Department of Interior sent a letter to the National Telecommunications and Information Administration at the U.S. Department of Commerce concluding after their review of the research showing adverse impacts to birds that "The electromagnetic radiation standards used by the FCC continue to be based on thermal heating, a criterion

²² The energy use implications of 5G, reviewing whole network operation energy, embodied energy and indirect effects, Renewable and Sustainable Energy Reviews, Jan 2022, University of Sussex Business School and Center for Energy Technologies, Aarhus University, Denmark

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4008530

²³ National Telecommunications and Information Administration

https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf?fbclid=IwAR2ZeoGa_7OuWt9MvY3McMtF4YmmBoJXkzwKlkqre2VkaO-e_AQpi44oE

²⁴ Independent Science on the Effects of Wireless Radiation on Human Health and the Environment

<https://www.grassrootsinfo.org/wireless-digest>

now nearly 30 years out of date and inapplicable today.” Dr. Albert Manville, retired U.S. Fish and Wildlife Service wildlife biologist and the former lead on telecommunications impacts has authored numerous publications regarding harm to birds and has written to the FCC about those harms and on higher frequencies used in the deployment of 5G. “The race to implement 5G and the push by the FCC to approve the related 5G license frequencies to industry are very troubling and downright dangerous.”

The dense buildout of wireless infrastructure widens the “Digital Divide” for Disadvantaged Communities. In state after state, the wireless industry is seeking to fast-track approvals for its powerful new “small cell” antenna installations required for the deployment of new 5G technology, but many communities are pushing back by adopting strict zoning codes. The wireless industry, which is unregulated, is trying to prevent local governments from controlling the deployment of 5G antennas and falsely claiming that the new 5G technology is needed to close the digital divide.

The digital divide was created in the 1990s when the telephone companies – parents of today's wireless companies – neglected to fulfill their promise to connect every telephone customer with fiber-optic cable. Apparently they realized they could make a lot more money with their new unregulated wireless business. After all, if they gave their telephone customers access to the internet with super fast, reliable and low-cost fiber-optic cable, who would want their slower, less reliable and much more expensive wireless service? So they stopped connecting customers with fiber-optic cable (they had started with the most affluent customers first), leaving many minority and rural communities with only dial-up service, which was eventually discontinued. Those communities remain unconnected due to redlining by wireless industry.

Let's be clear: the real purpose of the new 5G wireless antennas is to allow the wireless companies to get into the highly lucrative video streaming business and compete with cable companies without having to run a physical cable into peoples' homes or apartments. The deployment of 5G has nothing to do with on-line education or improving access to the internet for low income and rural customers. This is about getting federal help (from the Federal Communications Commission) to limit local regulations, and getting federal funding to open up new markets for the telecoms.

Wireless is an inferior technology, and will saddle low-income customers with high monthly fees in addition to the need for new 5G-enabled equipment. Low introductory rates for wireless service should not fool anyone. In an unregulated market, wireless companies can change prices anytime they want. Pretending that wireless will somehow close the digital divide is a cruel and specious claim and comes from the same industry that created the digital divide and hopes to make huge profits on 5G.

The way to close the digital divide is with federal funding for a superior technology that is faster, more reliable, more affordable, less prone to hacking and is 100% safe for everyone. It's fiber-optic to and through the premises, or “FTTP.” Community-owned fiber is the best possible solution. A lot of the infrastructure is already in place, thanks to the telephone customers who paid for it every month, year after year.

Smart meters or wireless meters are also energy intensive wireless devices, which utilize RF microwave radiation to send information about a customer's utility usage to the product

suppliers, typically electric, gas and water companies. RF microwave radiation is the same type of radiation emitted from cell towers, cellphones, WiFi and other wireless communication devices. Smart meters produce very strong short bursts of pulsed RF microwave radiation many times over a 24 hour period. And unlike other wireless devices, smart meters are permanently installed in close proximity to people, even potentially sharing a wall with a child's bedroom or family room. Smart meters transmit data directly to the utility or through a network that helps to aggregate and transmit the signals. The frequency of the signals can range from once every few hours to tens of thousands of times per day. People living in apartments near banks of meters or utility collector meters that relay signals from hundreds of homes are exposed to significantly greater amounts of radiation.

Recommendations

Prioritize and ensure installation of energy efficient Fiber Optic To and Through the Premises (FTTP) to reduce needless energy intensive and expensive wireless infrastructure in order to meet climate goals and mandates.

New York State legislature should enact legislation to study the environmental, health and climate impacts of wireless devices and infrastructure.

New York State legislature should enact proposed legislation S8765 (Harckham) for consumer choice regarding their utility meters without penalties, fees or service charges.

Public Health

Although the Scoping Plan acknowledges the disproportionate health burdens placed upon low-income communities and communities of color, this area needs further expansion. More intensive and expeditious efforts are necessary to significantly reduce air pollution. Other areas that require more attention are the health effects exacerbated by climate change and include increased heat stress, increased severity of respiratory and cardiac conditions, increased risk of injury and death due to other extreme weather events including flooding, which can lead to mold, food and water contamination and food insecurity. Lack of or severely limited cooling and heating intensify these health issues.

Recommendations

The Scoping Plan should include the full cost accounting of the environmental, health and climate impacts that expressly includes the direct health care costs, the indirect health related costs such as time lost from work, school, rehabilitation, diminished productivity, loss of natural resources and costs of clean up.

New York State must include the development of emergency planning and provisions for funding to address flooding, extreme heat and other urgent community needs, especially for

Disadvantaged Communities. Cooling and heating centers and access to affordable community renewable energy resources are crucial.

Thank you for the opportunity to submit our comments on the New York State Climate Action Council Scoping Plan.

Respectfully submitted by,

Ellen Weininger
Director of Educational Outreach
Grassroots Environmental Education
ellen@grassrootsinfo.org