



Northeast Organic Farming Association of New York's Comments on the Climate Action Council Draft Scoping Plan for Implementation of the Climate Leadership and Community Protection Act

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Table of Contents

<u>Introduction</u>	3
<u>Definition of Regenerative Agriculture</u>	8
<u>Specific Comments on Draft Scoping Plan</u>	9
<u>Chapter 15. Agriculture and Forestry</u>	9
<u>AF 9. Advance Alternative Manure Management</u>	10
<u>Recommendations for Funding Upstream Manure Management</u>	11
<u>Climate Resilient Farming Program Recommendations</u>	12
<u>Recommendations for Regulating the Few, Very Large Dairies</u>	12
<u>Accounting for Methane and Nitrous Oxide Emissions</u>	12
<u>AF10. Advance Precision Feed, Forage, and Herd Management</u>	16
<u>AF11–18. Soil Health, Nutrient Management, and Agroforestry</u>	17
<u>AF11. Advance Agricultural Nutrient Management</u>	19
<u>AF12. Adopt Soil Health Practice Systems</u>	20
<u>AF14. Develop AEM Planning for Climate Mitigation and Adaptation</u>	21
<u>AF15. Monitor and Benchmark Agricultural GHG Emissions</u>	22
<u>AF16. Establish a Payment for Ecosystem Services (PES) Program</u>	22
<u>AF17. Bolster Local Agricultural Economies</u>	24
<u>AF18. Develop Forestry Training Programs to Support Expanding Workforce and Climate Knowledge & AF19. Expand Markets for Sustainably Harvested Durable Wood Products</u>	25
<u>AF20. Develop a Sustainable Biomass Feedstock Action Plan and Expand the Use of Bioenergy Products</u>	25
<u>AF24. Advance Deployment of Net Negative Carbon Dioxide Removal</u>	25
<u>Chapter 19: Land Use</u>	26
<u>LU5. Mapping, Research, Planning, and Assistance</u>	26

<u>LU10. Direct Planning, Zoning, and Pre-Development Assistance to Municipalities</u>	27
<u>Chapter 21. Adaptation and Resilience</u>	27
<u>AR 1. Creating, Implementing, and Updating a Comprehensive and Equitable State Climate Change Adaptation and Resilience Plan</u>	27
<u>Bibliography</u>	2

Introduction

The Northeast Organic Farming Association of New York (NOFA-NY) on behalf of our over 1,500 members appreciates the opportunity to comment on the Draft Scoping Plan of the Climate Leadership and Community Protection Act (CLCPA). There are many important points in this document that will lead to policies that will reduce and eventually eliminate our state's dependence on fossil fuels. We applaud the all-hands-on-deck approach, but for a just transition and the rapid transformations required, NOFA-NY believes we need collective action to change some of our deeply entrenched institutions.

Founded in 1983, the Northeast Organic Farming Association of New York (NOFA-NY) is the premier statewide organization growing a strong regenerative organic agriculture movement in New York State and is part of a regional network of seven Northeast Organic Farming Associations. NOFA-NY provides education and assistance to local organic and agroecological farmers; connects consumers with organic and agroecological farmers; advocates policies that support a sustainable and fair food and farm system at both the state and federal levels; and is the largest USDA-accredited organic certifier in New York certifying over 1,100 organic operations in the state.

As an organization of organic farmers, gardeners and conscious eaters, we are painfully aware that climate change is already underway; and are working to help make NYS and our world more resilient and just. We focus our comments below on food, agriculture, and land use, with a few preliminary comments here that apply throughout.

First to confront the legacy of racism in our food system, this Scoping Plan and the legislation and investments that will flow from it must prioritize racial justice in our efforts for climate justice. Commissioner Ball has underscored the NYS Department of Agriculture's commitment to building a "stronger, more resilient, and more equitable agricultural community in New York State" and racial equity is central to this commitment (New York State Department of Agriculture and Markets, 2021). This Scoping Plan must do more to enable the NYSDAM to actualize this commitment including ensuring that at least 40% of all agriculture funds expended by the state under this Scoping Plan are invested in underserved communities and ensuring that members of *all* underserved communities are represented and able to participate in the design and implementation of all new initiatives.

Black Farmers United NYS provides specific actions to increase racial equity in NY farming and food systems including:

1. Create opportunities for Black farmworkers to become business owners,
2. Fund black farm and food startups,
3. Supply 1,490 acres of affordable land for farmers of color through the Northeast Farmers of Color Land Trust

4. Provide exceptional education delivered by experienced black farmers that compensates the farmers for this service,
5. Support urban farms by easing access to land in cities,
6. Commit to inclusion of farmers of color in agricultural programs starting with Farmland for a New Generation,
7. Award full scholarships to SUNY for agricultural degrees for Black people,
8. Capture and provide meaningful data on the needs and locations of Black farmers (Black Farmers United NYS, n.d.)

In addition to incorporating these solutions into the Scoping Plan, state-led climate mitigation efforts must include people of color in planning and design. Further actions to increase racial and social equity and better serve underserved communities must be designed and led by people of those communities.

Second, the Scoping Plan divides food and agriculture into different sections. As a result, damage to the environment from the existing food system is understated and, at the same time, the benefits that a transformed food system can bring are also understated. Full cost accounting for the entire food system makes it clear that we must move NYS to a more localized way of producing and distributing agricultural products while eliminating the wastes from food production and consumption.

The COVID-19 pandemic has been a case study in the numerous benefits and resilience of local and regional food systems and the risks associated with overreliance on trans-and-international distribution food supply chains (Meter, 2021). In NY, the local food sector swiftly met gaps in pandemic-related community food distribution, illuminating the importance of supporting and growing local producers, processors and distributors and the individual workers who made these systems excel. In the place of overextended distribution chains, concentrated corporate control, and fossil fuel-derived inputs, we must shift our investments and incentives to locally controlled farms, and regional processors, and distribution outlets, both urban and rural.

We must build a food system grounded in agroecological systems that originated in indigenous cultures including Native American, Asian and African cultures (Carlisle, 2022). Agroecological systems must be coupled with optimal use of the latest social and technological innovations to bring greater health to both the farmers and workers who produce food and the eaters who benefit from fresh, local, nutrient-dense food grown in healthy soils. **We urge the Climate Action Council to combine food and agriculture-related strategies to account for their total climate cost.**

Third, New York needs, and this Scoping Plan should call for, an accurate full life cycle accounting of greenhouse gas equivalents which includes not just farming practices but also farm inputs. Although this concept appears in multiple places throughout these comments it is worth noting here the overall importance of a full and complete accounting of agricultural emissions and capacity to reduce or sequester emission equivalents. In passing the Climate

Act, the legislature recognized the need for accurate accounting and specifically noted the importance of upstream emissions when it came to electricity:

“In order to ensure the most accurate determination feasible, the department shall utilize the best available scientific, technological, and economic information on greenhouse gas emissions and consult with the council, stakeholders, and the public in order to ensure that all emissions are accurately reflected in its determination of 1990 emissions levels (CLCPA, 2019, p. 11).”

The Climate Act also states,

“‘Statewide greenhouse gas emissions’ means the total annual emissions of greenhouse gasses produced within the state from anthropogenic sources and greenhouse gasses produced outside of the state that are associated with the generation of electricity imported into the state and the extraction and transmission of fossil fuels imported into the state. Statewide emissions shall be expressed in tons of carbon dioxide equivalents (CLCPA, 2019, p. 6).”

The Scoping Plan must accurately account for the emissions from the production of synthetic nitrogen (N) fertilizers and petrochemical-based pesticides and the fracked gas or oil used in that production as an energy source or a feedstock. The Institute for Agricultural and Trade Policy has reported that the climate impacts of excessive use of nitrogen fertilizers is drastically worse than previously estimated. Researchers estimate that the N-fertilizer supply chain is contributing more than six times the greenhouse gasses (GHGs) produced by the entire commercial aviation sector (IATP, 2021). To accurately calculate the real impacts that sectors of our economy have on our climate, we must calculate these real and quantifiable carbon equivalents. To incentivize and encourage best management practices that will help us reduce our emissions, we must first fully understand what those emissions are.

Fourth, to squarely address irreversible abrupt climate change, we need to match expectations for production with management aimed at restoration of the carbon cycle. Restoration of the carbon cycle leads to restoration of hydrologic cycles, which is critical to climate change impact mitigation.

The Scoping Plan must protect and restore our soil resources, and strengthen urban and rural economies, by providing income to those who regenerate soil while producing food, fiber, building materials, and medicine. To that end, and with meaningful community input, **NYS should implement a program of Payments for Ecosystem Services that recognizes farming systems that sequester carbon to mitigate climate change and compensates farmers for the many interrelated and essential ecosystem services that their farms provide.** Land managers using regenerative systems require a steady guaranteed income. Every farm experiences ebbs and flows in carbon sequestration, but there is not a farm or forest, garden, backyard or park that can’t build more soil organic matter. It is the cumulative

effect that is exponentially important and is also why payments should be equitable across the board for all land managers participating in soil health management regardless of acreage.

Fifth, and economically speaking, small diversified, intensively managed farms have the flexibility and resilience to best withstand the shocks and disruptions that are coming our way. “Small” farmers are estimated to provide 70% of the world's food (ETC Group, 2022). Adopting regenerative climate-resilient systems will increase food system resilience by reversing the trend towards fewer, larger farms. Well-designed and managed no-till organic farms are remarkably productive and economically viable: there are farms where vegetables are grown on 3 to 15 acres that are providing the full annual vegetable needs for 300 families or 1000 people while building soil organic matter to 8 to 10%. At that level of skill and intensity, NY would only need 30,000 farms cultivating from 90,000 to 300,000 acres and providing living wage, meaningful employment for 300,000 people. **We ask that small diversified intensively managed farms be supported in all agriculture and food systems measures in the final Scoping Plan.**

Sixth, it is urgent that NYS enact a ban on the use of sewage sludge on agricultural lands until the prevalence of Per- and Polyfluoroalkyl Substances (PFAS) is remedied. PFAS are “forever chemicals” that have contaminated food supplies through the application of sewage sludge on farmland. Since the early 2000s, the Cornell Waste Management Institute has cautioned farmers about the health and environmental risks of spreading sewage sludge (Harrison & McBride, 2009). In the face of increasing concerns about PFAS contamination, additional precautions must be taken. As NY transitions farms to types of farming systems and practices that reduce emissions, sewage sludge cannot be part of that mix because of contamination threat. Until comprehensive peer reviewed studies and a DEC review have found sewage sludge application, and biochar/fertilizer derived from sewage sludge to be safe, the state must take action to protect farmland and human health from contamination. In Maine, as soon as they started testing farm fields where sewage sludge had been used even decades previously, they found concentrations of PFAS that are so high that farmers can no longer produce crops or livestock for market (Kersbergen, 2022). NY must act now to determine testing needs, and financial support for farmers with contaminated farmland.¹ This contamination is a very serious threat to the economic viability of farms and public health. As the climate Scoping Plan invests in the future of farming in NY, PFAS contamination must be addressed.

Finally, the Draft Scoping Plan refers repeatedly to Regenerative Agriculture without providing a definition. Since there is still so much that we do not know about the soil resource on which we depend, it is important that we rely on agreed upon standards and definitions in this Scoping

¹ In 2022 Maine passed two laws that could serve as models for similar legislation in NY: LD 1911 – An Act To Prohibit the Contamination of Clean Soils with So-called Forever Chemicals and D 2019 – An Act To Require the Registration of Adjuvants in the State and To Regulate the Distribution of Pesticides with Perfluoroalkyl and Polyfluoroalkyl Substances

Plan and that any definitions of regenerative agriculture that may be developed remain aspirational rather than prescriptive, as proposed below.

Definition of Regenerative Agriculture

The term “regenerative agriculture” is used throughout the Scoping Plan but does not have a clear, consistent or legal definition. It is used interchangeably in the Scoping Plan with “Healthy Soils Practices”, “Climate-Smart Agriculture”, “Climate Friendly Agriculture”, and “Carbon Farming.” In absence of a legal definition of regenerative, climate-smart and climate friendly agriculture, we encourage the Climate Action Council to instead refer throughout the Scoping Plan to the state’s comprehensive definitions of “soil health practices” and “soil health” from article 11-B of NYS Agriculture and Markets law (Soil Health and Climate Resiliency , 2022.):

§ 151-l. Definitions. As used in this article: 1. "Soil health" means soils that have the continuing capacity to function as a vital, living ecosystem that sustains plants, animals, and humans. The benefits of healthy soil include: supporting the production of food, feed, fiber, and fuel; facilitating infiltration, storage and filtration of water and protecting water quality; enhanced nutrient-holding capacity and nutrient cycling; providing habitat for diverse soil organisms; enhanced resilience to drought, extreme precipitation events, temperature extremes, pests, diseases and other stresses; breaking down harmful chemicals; reducing agricultural impacts on, and mitigating the impact on agriculture of, global climate change; and sequestering carbon and net long-term greenhouse gas benefits.

2. "Soil health practices" means agricultural and land management practices that improve the function of soils through actions that follow the principles of: minimizing soil disturbance from soil preparation; maximizing soil vegetation cover; maximizing the diversity of beneficial soil organisms; maximizing presence of living roots; and integrating animals into land management; and in support of such principles, include such practices as conservation tillage or no-till, cover-cropping, precision nitrogen and phosphorous application, planned rotational grazing, integrated crop-livestock systems, agroforestry, perennial crops, integrated pest management, nutrient best management practices, and those practices recommended by the United States Department of Agriculture Natural Resources Conservation Service and that are supported by the state soil and water conservation committee.

The term regenerative agriculture originated with Robert Rodale, an early proponent of organic agriculture, whose teachings were rooted in centuries-old indigenous wisdom. While there is no one definition of regenerative agriculture today, we believe that regenerative agriculture refers to farming that grows nutrient-dense crops and healthy livestock by increasing biodiversity, building healthier soils, improving water catchment, and enhancing nutrient cycling, with the aim of increasing soil organic matter and microbial life, as well as aboveground biomass, thereby

helping to reverse the current global trends of atmospheric accumulation of greenhouse gasses (GHGs).

“Regenerative farms are also diverse and complementary in their enterprises, and adaptive in their management choices, ensuring that a farm is resilient and profitable in the face of adversity. These practices are dependent upon one another within a system for them to be optimally successful, and it is the system, not the individual practices, that drives the success of an operation” (Fenster et al., 2021).

We also believe that to be worthy of the term regenerative agriculture, farms must be grounded in a culture of soil care that prioritizes soil health while simultaneously maintaining high standards for worker fairness in order to create farming systems that work in harmony with nature to improve the quality of life for every creature involved. Organizations and institutions that support regenerative agriculture must also ensure representation and enable meaningful engagement and compensation for those whose knowledge, experiences, and wisdom have shaped and continue to guide regenerative systems.

Specific Comments on Draft Scoping Plan

Chapter 15. Agriculture and Forestry

We strongly agree with the Climate Justice Working Group’s assessment that the proposals from the Agriculture and Forestry panel are too conservative and urge that the Climate Action Council take into consideration the Climate Justice Working Group critiques that this chapter of the Draft Scoping Plan:

- Doesn’t totally address systemic racism
- Still enables harmful, large scale farm operations
- Relies on false solutions like biogas and biomass
- Maintains use of fracked gas in fertilizers
- Fails to spur robust organic farming
- Includes too many voluntary incentives and not enough mandatory actions (Climate Justice Working Group, 2021).

We also agree with the comments from EarthJustice that call for the Scoping Plan to set statewide goals based on targets proposed at the national scale for the adoption of climate-friendly practices in order to track progress and increase accountability. We thus recommend the Scoping Plan include the following targets to be achieved by 2040:

- expand soil health practices to restore at least half of soil organic carbon that has been lost in the last 300 years;
- maintain year-round cover on at least 75% of cropland acres;

- establish advanced grazing management on 100% of grazing land;
- reduce GHG emissions related to the feeding of ruminants by at least 50% by increasing grazing of ruminants, growing feed grains and forages with soil health and nutrient practices that minimize net GHG from cropland, and utilizing livestock feed mixtures and supplements to mitigate enteric methane emissions;
- increase crop-livestock integration by at least 100% over 2017 levels; and convert at least two thirds of wet manure handling and storage to alternative management as described in the following section.

In addition, we urge that the Scoping Plan set goals for the conversion of NYS farms to organic and agroecological systems with at least 25% by 2030, 50% by 2040 and 80% by 2050.

AF 9. Advance Alternative Manure Management

We support many of the specific components of the strategy laid out, including:

1. Expanding funding for the Soil and Water Conservation Committee, the Soil and Water Conservations Districts, and the Climate Resilient Farming program to assist farmers in implementing alternative manure management systems that reduce methane, protect water quality and build soil health
2. Increasing farmer access to technical assistance, and
3. Providing additional training for technical advisors.

We oppose

- Continued state investments in liquid manure systems and setting up statewide purchasing programs for equipment such as covers and flares,
- The establishment of markets for energy generated by on-farm systems, and
- The expansion of funding for “advancement of energy production and methane mitigation.”

In the following sections, we suggest alternatives that the Scoping Plan should prioritize including:

- Funding transformative practices that work upstream of manure storage, and prioritize practices that farms of all sizes can adopt
- Ensuring that Climate Resilient Farming Program funds are directed towards reducing both enteric and manure sources of agricultural methane emissions, and utilize these funds to build climate resiliency
- Regulating and holding accountable the few very large NY dairies whose manure storage systems produce the majority of agricultural GHG emissions
- Improved accounting for methane and nitrous oxide emissions

We conclude with a discussion of the measures that we oppose in AF 9.

Recommendations for Funding Upstream Manure Management

As the Climate Justice Working Group identifies on page 16 of their 2021 response to the Draft Scoping Plan, there are much more sustainable alternatives to this type of manure storage and handling. We join their call to **“fund transformative practices upstream of manure storage and towards practices that smaller producers can adopt.”**

These practices/systems may include:

- Dry, aerobically managed, manure systems which produce only 7% as much methane as anaerobic liquid manure and can provide compost as a co-benefit (Lehner & Rosenberg, 2021).
- Pasture based systems in which decomposing manure enriches soil. Manure from *pastured* cows generates less than 2% as much methane as anaerobic liquid manure systems and helps to build healthy soils (Lehner & Rosenberg, 2021).
- Systems that integrate livestock with crops, pasturing livestock or applying appropriate levels of composted manure to well drained crop fields
- Reductions in enteric emissions that are appropriate for organic and pasture-based systems

For example, an organic dairy operation in Penn Yan just completed a system that separates the solids and composts them aerobically while storing the liquids in a tank that is used for irrigation. The aerobic manure with plenty of added carbon is much more economical to transport longer distances where it can be returned to the land that generated the feed, creating a closed-loop mineral cycle. The composted higher-carbon manure is also far more stable and does not generate runoff or impact water quality nearly as much as liquid manure does. The farm adds the milk house water and yard runoff to the liquid portion. It is very low in solids and has very little odor. The farm is also experimenting with subsurface drip irrigation which would completely eliminate both runoff and odors from the liquid portion.

Another small-scale dairy decided to use their 20 cows as a tool to improve the pasture land in combination with adaptive rotational grazing. Working with the National Resources Conservation Service Environmental Quality Incentives Program (NRCS-EQIP), the farm installed all the infrastructure needed, including high tensile perimeter electric fence, an improved cow trail, spring fed water system, and protection of riparian zones. They move a temporary fence every 12–24 hours to give the cows a fresh paddock. By matching stocking rates and density to feed availability they can ensure the fields are not overgrazed and receive recovery time before the cows return. They no longer make second cut hay, but fold the hay fields into the grazing rotation after the harvest of first cut. This allows them to extend the length of rotation when the pastures are slowing with the dry hot weather of mid-to-late summer. After only a few years, the pastures are full of a diverse mix of plants, including forbes and wild flowers. Adaptive rotational grazing minimizes the impact of cattle and maximizes biodiversity.

By giving paddocks adequate rest, the farm can keep forages in a generative state for longer periods which keeps roots growing, resulting in a system with no erosion and increasing soil carbon. Despite the small number of cows, this dairy is economically viable because the farm family makes cheese and yogurt from the milk and sells them directly to customers.

These farms and others across NYS are already demonstrating that better manure management systems are possible as well as economically viable. Funding for a just transition in dairy must include support for farms of all sizes, and farmers using alternative management systems that mitigate upstream and enteric methane emissions through the adoption of systems that simultaneously build soil health and protect water quality.

Climate Resilient Farming Program Recommendations

The Climate Resilient Farming Program (CRF) is an important mechanism for implementing on-farm projects that assist farmers in implementing alternative manure management systems which reduce methane, protect water quality and build soil health. However, the Scoping Plan should ensure that CRF funds are directed towards projects that both reduce methane emissions and build climate resilience, like those outlined in the prior section, rather than entrenching manure management practices that rely on liquid systems of manure handling and storage. Furthermore, farms that choose to implement anaerobic digestion systems are already eligible for support through the Department of Agriculture and Markets Agricultural Nonpoint Source Pollution Abatement and Control Program and federal National Resource Conservation Service Environmental Quality Incentives Program (NRCS-EQIP) funding. CRF must implement more equitable distribution of funds for all scales and types of operations.

Recommendations for Regulating the Few, Very Large Dairies

According to the most recent Census of Agriculture, just 12% of New York's over 4,600 dairies account for nearly 70% of New York's dairy cow population and are responsible for the vast majority of associated methane emissions from both enteric fermentation and manure management (National Agricultural Statistics Service, 2019). Instead of directing the majority of state agriculture funding to the very largest operations, the Scoping Plan should call for regulating and holding accountable this small number of very large NY dairies whose manure storage systems produce the majority of agricultural GHG emissions.

Accounting for Methane and Nitrous Oxide Emissions

Anaerobic manure systems combine a digester with a covered pit or lagoon that collects the daily effluent of manure and liquid wastes from a cow barn (US EPA, 2021). The process of anaerobic digestion creates more per-head methane emissions than other manure management systems (Owen & Silver, 2015). These increased emissions are not fully dealt with in cover and flare systems which produce 3 pounds of CO₂ per pound of methane burned plus nitrous oxide

which is not burned. Nitrous oxide (N₂O), which has roughly 300 times as much global warming potential (GWP) as CO₂.

The Climate Action Council must use a consistent methodology to account for the methane *produced* by manure management systems, the amount of nitrous oxide emissions that anaerobic manure systems generate, and the amount of energy used in management systems, to calculate the total global warming potential of different system types.

Discussion of Measures We Oppose

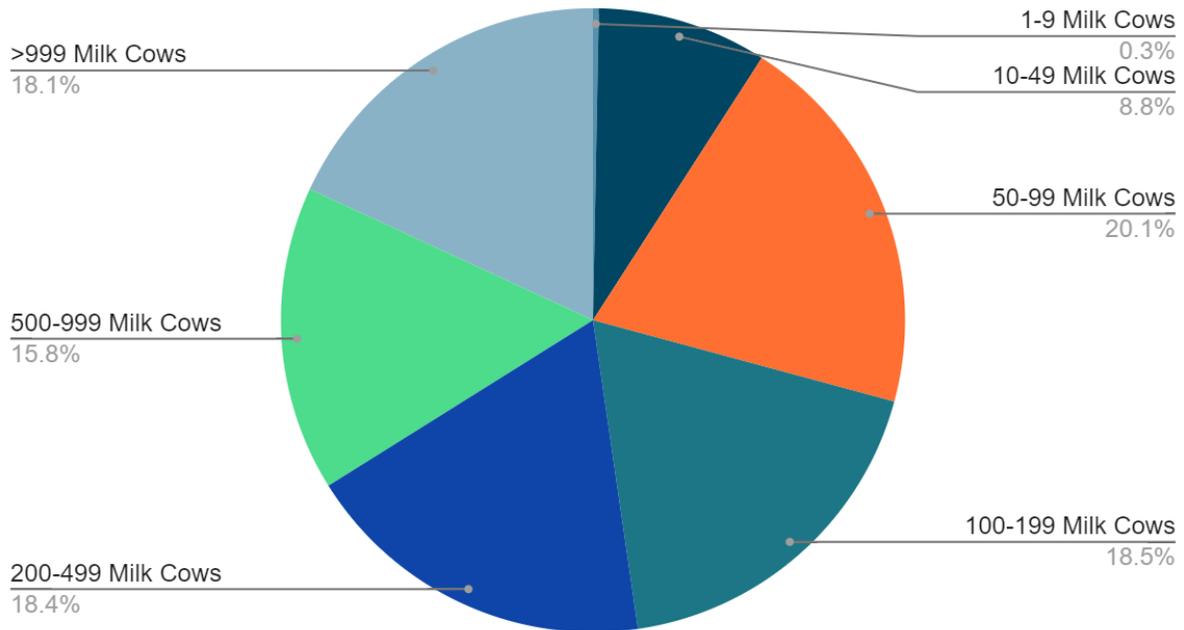
The alternative manure management measures that we oppose accelerate the continuation and expansion of harmful practices at the largest of Concentrated Animal Feeding Operations (CAFOs)² and encourage smaller dairies to use manure pits instead of dry manure systems, while providing only temporary and minimal relief from fossil fuel emissions. These measures include:

- Continued state investments in liquid manure systems and setting up statewide purchasing programs for equipment like covers and flares,
- The establishment of markets for energy generated by on-farm systems,
- The construction of pipelines to carry manure-derived biogas to a site where it is used as fuel, and
- The expansion of funding for “advancement of energy production and methane mitigation.”

Dairy farming in this state has been suffering a devastating decline due to excessively low prices and swings in prices that are unpredictable. In 2009, there were 5,475 dairy farmers in NYS averaging \$314.5 thousand in gross income per year; in 2019, that number had dropped to 3,893 dairy farms with average income of \$741.3 thousand (McCarthy et al., 2020). Additionally, the dairy market is undergoing ongoing consolidation. The charts below show that in just a ten-year period from 2007 to 2017, the percentage of NY dairies with over 999 cows, doubled while the percentages of smaller operations declined.

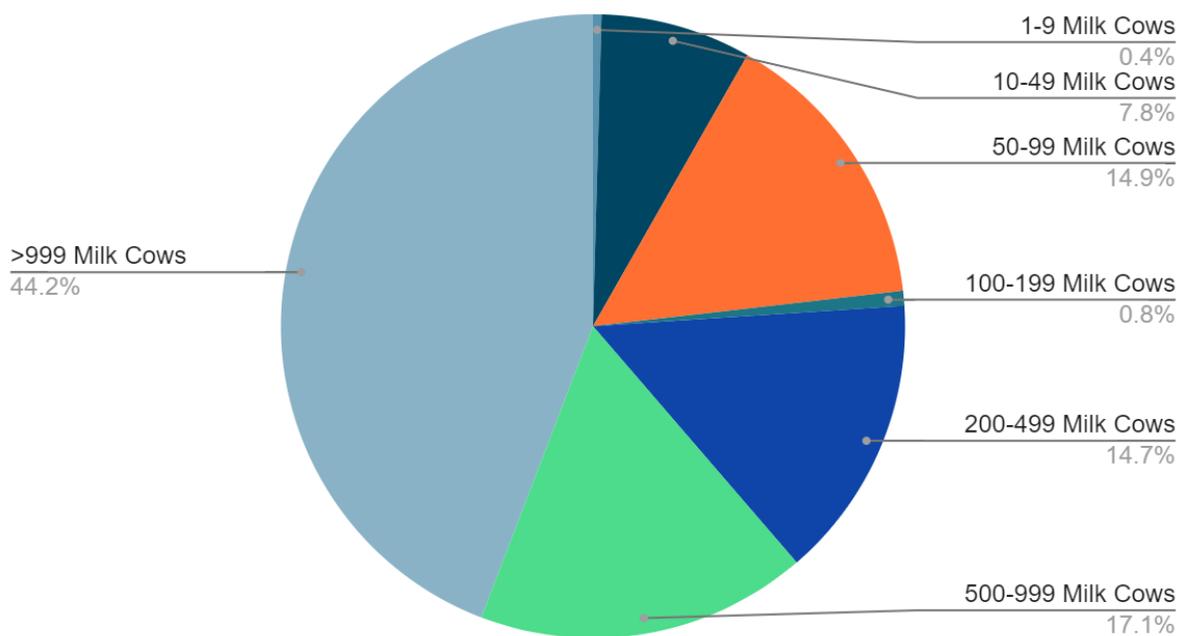
²In NY, CAFOs are regulated by the NYS Department of Environmental Conservation and are defined as, "an animal feeding operation (farm) that meets certain animal size thresholds and that also confines those animals for 45 days or more in any 12-month period in an area that does not produce vegetation. New York State has roughly 500 CAFOs, the majority of which are dairy farms with 300 or more cows and associated livestock operations."

2007 NY Dairy Herd Size



Data from: MacDonald, J. M., Law, J., & Mosheim, R. (2020). [Consolidation in U.S. Dairy Farming](#) (No. 274). Economic Research Service, United States Department of Agriculture.

2017 NY Dairy Herd Size



Data from: MacDonald, J. M., Law, J., & Mosheim, R. (2020). [Consolidation in U.S. Dairy Farming](#) (No. 274). Economic Research Service, United States Department of Agriculture.

By prioritizing investments in anaerobic digesters and building markets for biogas, the industry will become further committed to large-scale confined operations rather than moving to more climate resilient agriculture systems. In this Scoping Plan, New York has an opportunity to take a diversified approach to mitigating emissions from manure (such as those discussed above) by expanding the breadth of emissions efforts instead of prioritizing investments in inherently unsustainable anaerobic digester systems that pose numerous problems including those outlined in this section.

Unless they are filled in, manure pits/lagoons that are no longer in use continue to emit methane. When in use, if the farmer does not completely empty the pit in spreading the manure each season, when new manure is added, the aged manure that remains in the pit combines with the new manure to raise emissions by as much as 50% (Bauer, 2021). Manure pits/lagoons also pose threats to surface and ground water quality. With the predicted increased intensity of precipitation in the Northeast due to climate change, risks of overflow are also increased. Overflowing manure lagoons cause nitrogen and phosphorus contamination and can lead to harmful algal blooms (Hribar, 2010).

The lifespan of anaerobic digesters is unknown. A report of operations in California found that less than half of digesters in the state that have received public funding since 1989 were still operational in 2015. The report further notes that the costs of installation and maintenance are extremely high, between \$1350-3400 per cow. Ongoing costs and uncertain lifetimes of digesters call into question the legitimacy of them as the primary, and profitable long-term solution for methane mitigation on dairy operations, especially in light of much more economical alternatives. This uncertainty brings significant financial and operational risk to dairies that do invest in anaerobic systems. Furthermore, once an investment is made, farms are limited in their ability to reduce herd size to adapt to market changes (Kotin et al., 2015).

Additionally, subsidizing digesters and developing a methane derived biogas market, creates a perverse incentive to *generate* methane and will require new pipelines bisecting farmland. We oppose the construction of pipelines to carry manure-derived biogas to a site where it is used as fuel. An article from earlier this year highlights how a renewable natural gas market in California, has brought investors to NY dairies in search of high-on farm concentrations of methane (French, 2022).

Finally, we suggest reviewing the second component of the Strategy, “expand farmer access” for feasibility. Are there disadvantaged communities and underserved farmers in need of technical assistance with manure pit caps, flares and anaerobic digesters? We suggest research into the needs of underserved dairy and livestock farmers that is guided by stakeholder groups which include underserved farmers, organic farmers, and smaller-scale farmers to ensure that the research is practical, economical, and appropriate.

We urge the Climate Action Council to rewrite this section and remove references to “cover and flare systems” and “anaerobic digester systems” and instead include support for organic and pasture-based systems that reduce GHG emissions while building soil carbon and health.

AF10. Advance Precision Feed, Forage, and Herd Management

Methane emissions from enteric fermentation are lower when livestock are raised on pasture. The assertion that methane from feed digestion represents the highest percentage of agricultural emissions is just not true when liquid manure systems, feed, and fertilizer production are included in the calculations, as they must be. While we support research into ruminant nutrition, improved forages, and feed additives like red seaweed that may reduce methane from enteric fermentation, there is already a lot of research that shows that **pasture-based systems produce less methane**. There is a need for increased training for SWCDs on assisting farms in converting to pasture-based and integrated livestock and crop systems.

Grazed cattle and confined cattle in the northeastern states produce vastly different kinds and amounts of GHG. The manure handling of confinement operations generates huge amounts of methane that well-managed grazing systems do not. In addition, the production of feed for confinement cattle generates huge amounts of CO₂, methane, and NO_x that must be added to

the manure handling emissions and the enteric methane in order to get an accurate total. These emissions from feed production are mitigated by producing feed organically because organic cropping systems have the potential to capture and store more carbon and release fewer greenhouse gasses (“Organic for Climate,” n.d.).

The Scoping Plan must differentiate between the actual enteric methane and the other GHG emissions from livestock systems to avoid advancing extremely misleading information and overlooking the real cause of GHGs from livestock and the best solutions.

We ask the Climate Action Council to replace the sentence that asserts that “methane from feed digestion represents the highest percentage of agricultural emissions” with a paragraph that summarizes the findings we’ve presented above and in comments on AF9. The Scoping Plan should also add a strategic component that provides resources for conversion to well-managed pasture-based systems and acknowledges the vast benefits of such a system for GHG emissions.

AF11–18. Soil Health, Nutrient Management, and Agroforestry

“Improving soil health can increase soil organic matter to sequester carbon as well as maintain and enhance soil structure to increase water infiltration reducing drought stress; decreased runoff after heavy storms leads to better water quality; proper uptake of nutrients by plants reduces excess nutrients entering water bodies [...] Existing soil health and water quality initiatives can be utilized to include GHG mitigation taking a comprehensive approach to meeting multiple State environmental management goals.”

The above excerpt from pages 213-214 of the Draft Scoping Plan is a good summary of the broad benefits of healthier soils. One simple set of tactics that should be implemented on a grand scale and that is supported by the Climate Justice Working Group is funding and programs for farms to transition to organic systems. The Climate Justice Working Group also recommends a tax on fertilizers (Climate Justice Working Group, 2021, p. B-15). We agree with these recommendations and urge the Climate Action Council to add them to the Scoping Plan.

Organic farms do not use synthetic nitrogen fertilizers. Research shows that organic farming increases soil carbon levels, soil stability and fertility, on-farm biodiversity, crop resilience, and reduces energy use through reduced tractor usage, on-farm emissions and avoidance of synthetic nitrogen fertilizers (Lehner & Rosenberg, 2021). By design, organic agriculture builds resilience into the system of food production. The latest Organic Farming Research Foundation report finds that, “organic producers lead the nation in adoption of resource and climate stewardship practices and corroborate earlier findings that organic systems can enhance resilience, carbon sequestration, and GHG mitigation” (Snyder et al., 2022).

Growing strong crops and livestock on healthy soils with bountiful biodiversity above and below ground, facilitates the ability of organic systems to tolerate, adapt to, and recover from extreme weather conditions. Organic systems include cover cropping, crop rotations, reduced tillage, nutrient cycling, and reducing inputs from off the farm. Additional benefits of organic practices for GHG emissions include:

- Organic regulations (§205.105) prohibit the use of synthetic substances in crop production. Prohibiting synthetic fertilizers in organic farming reduces a significant agricultural source of NO_x emissions. Since nitrogen is an essential plant nutrient, many organic farmers apply soil amendments such as manure and compost and grow leguminous cover crops, to fix nitrogen in the soil.
- Efficient nitrogen use is key to reducing GHG emissions. Aerated organic soils have low mobile nitrogen, which reduces NO_x emissions from agricultural fields.
- The use of synthetic pesticides is largely prohibited in organic agriculture. Synthetic pesticides disrupt nitrogen fixation and inhibit soil life. The absence of pesticides in the soil allows diverse organisms and beneficial insects to decompose plant residues and helps sequester carbon.
- Organic regulations (§205.203) require the implementation of soil fertility and crop nutrient management practices to maintain or improve soil such as crop rotations, cover cropping, and the application of plant and animal manures.
- High levels of organic matter in organic farm soils increase soil water retention, porosity, infiltration, and prevent nutrient loss and soil erosion. These soil properties make agriculture more resistant to flooding, drought, high winds, and the loss of soil organic carbon.
- Research has shown that if the standard practices used by organic farmers to maintain and improve soils were implemented globally, it would increase soil organic carbon pools by an estimated 2 billion tons per year – the equivalent of 12% of the total annual GHG emissions, worldwide (Schonbeck et al., 2019).

Critics of investments in soil health as a benefit to climate mitigation claim that one swipe of a plow can undo years of steady increases in soil carbon. While the Cornell Soil Health Characterization in NYS shows that mixed vegetable farms (most of them organic) that use occasional tillage and cultivation do not reduce the long-term storage of carbon, the answer to this criticism is that what is needed to ensure the permanence of soil-sequestered carbon is a culture of soil care among farmers, their neighbors and their customers with sustained support from public policy (Rylander, n.d.). Farmers, their customers, and policy makers must value soil as a paramount resource to be nurtured, protected, and improved on farms, in communities and throughout our state in order to provide healthy food, clean water, and fertile land. For example:

- NYS makes restoring the carbon cycle through building healthy soil a foundational value of all agriculture and land care planning.

- Farmers gain personal satisfaction and earn the respect of their neighbors by using good practices that are proven to decrease nutrients-laden soil run-off, protecting the water quality of our lakes, the source of drinking water for most of New York's urban/suburban and small-town residents.
- Customers' loyalty to farms is enhanced by their reputation as good soil stewards.

The Soil Health and Climate Resiliency Act of 2021 provides a solid basis for NYS to create a culture of soil care. See the definitions of soil health and healthy soil practices cited earlier in these comments. The bill adds soil health to the fundamental purposes of the Department of Agriculture and Markets and the Soil and Water Conservation Statewide Committee and sets in motion the creation of soil health standards for agricultural lands differentiated by soil type and cropping system.

These views on organic practices for nutrition management and soil health inform our comments below on sections AF11–18.

AF11. Advance Agricultural Nutrient Management

While we support the components of this strategy that recommend expanding funding and technical assistance to help more farmers improve soil health, and to expand Soil and Water Conservation Districts capacity “to aid on-farm implementation of GHG reduction and sequestration management practices,” these recommendations do not include supporting more farms to transition more farmland to organic systems that by definition do not use synthetic N fertilizers.

The strategies suggested for expanding program participants to include more “BIPOC, women, LGBTQIA+, low income, veteran, and beginning farmers” fall far short of what is needed. “Focus groups, surveys, and farm-to-farm education” and “cost-share eligibility” are all well and good for farmers who already have land and the resources to farm it. Even as the average age of the American farmer continues to increase, the next generation of potential farmers faces significant hurdles in establishing farms due to the rapidly increasing price of land and challenges accessing start-up capital. There are many more people interested in farming than have the financial ability to purchase farmland either as individuals or as collectives.

This Scoping Plan must include programs to enable more of the “underserved” people, including many undocumented farmworkers employed on farms in NYS, to access land and farming resources. Many of the people working on our dairy farms are unacknowledged climate refugees themselves who have had to flee climate-driven drought in Mexico and the highlands of Central America. Many of those forced to migrate from these places carry with them thousands of years of indigenous agricultural wisdom and bring new life and fresh perspectives to our farming community.

The already high-quality NYS system of Soil and Water Conservation Districts headed up by the Statewide Soil and Water Conservation Committee would be strengthened through the participation of underserved and organic farmers on the county and statewide levels to ensure that policies are equitable and the processes for applications and matching funds requirements match the capacities of these participants.

AF12. Adopt Soil Health Practice Systems

We support the expansion of funding for current soil health programs—Climate Resilient Farming, AEM Base, AgNPS, and building soil health into the entire AEM program—since farmers must first engage in AEM to gain eligibility for the Climate Resilient Farming and AgNPS grants. Additional research in monitoring and verification is urgently needed since there is no consensus even on the best way to test soils: how deep, how often, what time of year and even what to test for. Official recognition of low-cost methods that farmers can use themselves—including earthworm count, water infiltration, or other key indicators of healthy soils—is lacking. Landowners should be educated on the value of soil health systems to their properties and ways should be found to incentivize landowners to include management for soil health in lease language. Requirements for healthy soil practices could also be included in the criteria for judging which farms should be selected for the purchase of development rights. It is essential to **direct a much higher percentage of the grants distributed through these programs to improving soil health**, instead of the public paying for the expensive and unsustainable manure storage and management systems described above. We recommend that the Scoping Plan mandates that **every project that receives public funding should be required to use soil health practices as defined in Agriculture and Markets law**.

To successfully administer expanded soil health programs, the capacity of the SWCDs must be expanded. For the SWCDs to be effective in disseminating soil health systems, additional training in soil health and organic farming systems for SWCD staff is needed. The familiarity with soil health and organic farming systems among SWCD staff is very uneven across the state; a few counties have well-trained staff while staff members in other counties are not familiar with the climate benefits of organic and agroecological systems.

Precision and digital tools can help enhance farming systems, including organic and agroecological farming systems with diverse crops and integrated crops and livestock. However, precision technologies and digital tool development must be designed for and available to farms of all scales.

Funding needs to be explicitly included in the “support” for “farm to farm and peer to peer networking” component to enable field days on innovative farms. At present both NGOs like American Farmland Trust and NOFA-NY and public agencies like Cornell Cooperative Extension conduct soil health field days. The Scoping Plan should support these opportunities

and direct more resources to paying farmers to mentor other farmers. The Scoping Plan should also call for resources to facilitate networking and resource sharing.

Healthy soil practices will transform suburban and urban settings, too. Cities, towns and villages may implement healthy soil plans by creating more green spaces, community gardens and food parks. Water infiltration can be improved by establishing riparian buffers and replacement of asphalt and concrete with permeable surfaces. Urban gray water and run-off can be filtered through living filtration systems. Property managers and homeowners who practice organic yard care have an important role. Grass lawns taken as a crop make up the greatest percentage of irrigated acres in the US.

The Scoping Plan should also incentivize on-farm, backyard, community garden, and municipal composting to move us toward a circular economy and a zero-waste society.

AF14. Develop AEM Planning for Climate Mitigation and Adaptation

The strategies recommended in this section are excellent, but by calling AEM plans for climate mitigation and adaptation “carbon farm” plans, there is the risk that the focus will be too narrowly on carbon instead of the broad range of benefits that are listed on p. 220: “elevate local food production and resiliency, water quality, air quality, storm and flood mitigation, public infrastructure protection, drought resiliency, habitat, scenic vistas, tourism, economic development, and jobs.” We suggest dropping this title altogether.

To enable the broadest possible adoption of “AEM Planning for Climate Mitigation and Adaptation,” the final strategy listed is especially important: **“Integrate carbon farming with existing programs:** AGM should include planning protocols in AEM Base Programs and compatibility with federal programs. Priority practice systems from plans lead to implementation via direct investment by farmers, other private investors/lenders, as well as State and federal cost-share programs.” We agree that every effort should be made to ensure that state programs are compatible with federal programs, especially if legislation is passed in Congress that includes the elements of the Agriculture Resilience Act (ARA), first introduced by Representative Chellie Pingree in 2020. The ARA contains the following ambitious goals for mitigating agriculture’s impact on climate change:

- Overall reduce agriculture’s GHG footprint 50% below 2010 levels by 2030 and achieve net-zero emissions by 2040 (a far more ambitious target than proposed in the Draft Scoping Plan);
- Triple agricultural research and development funding by 2030 and quadruple it by 2040 (offsetting a long-term reduction in such funding and critical to achieving the other goals);
- Maintain year-round living plant cover on at least 50% of cropland acres by 2030 and 75% by 2040;

- Expand soil health practices to increase soil carbon by at least 0.4% per year (consistent with an international effort to offset much of the world's fossil fuel GHG emissions);
- Establish advanced rotational grazing management (which increases soil carbon and decreases manure emissions) on 50% of grazing land by 2030 and 100% by 2040;
- Increase agroforestry and silvicultural practices onto 15% of applicable land by 2030 and 30% by 2040;
- Increase crop-livestock integration by at least 100% over 2017 levels by 2040;
- Convert at least half of wet manure handling and storage to dry or alternative management systems that generate far less methane by 2040; and
- Reduce GHG emissions related to the feeding of ruminants by at least 50% below 2010 levels by increasing grazing of ruminants, growing feed grains and forages with soil health and nutrient practices that minimize net GHG from cropland and utilizing livestock feed mixtures and supplements to mitigate enteric methane emissions.

AF15. Monitor and Benchmark Agricultural GHG Emissions

We support allocating funds to benchmark and monitor GHG emissions from farms. Care should be taken so that at the farm level, this should not require elaborate or expensive testing and time-consuming data collection. What midsized and smaller-scale farms need is technical assistance that features do-it-yourself techniques that help farmers identify soil health indicators like soil aggregate analysis, water infiltration rate measurement, and earthworm and root counts. Funding is also needed for laboratory tests.

AF16. Establish a Payment for Ecosystem Services (PES) Program

AGM-SWCC lists a PES program on their website, but it is only in the beginning design stages (Ecosystem Based Management Program, n.d.). A well-defined PES program could provide an integrated approach to whole farm systems, including environmental, economic and social aspects. Ecosystem services that farms provide go far beyond cleaner water and carbon sequestration in soil—the production of nutrient dense food is an essential ecological service. A PES program would take account of all the landscape functions of a farm and how restoring these contributes to the health of the bioregion, including drought and flood resilience and increased biodiversity. Not only do local organic farms sequester carbon and restore habitat, they also reduce the overall GHG emissions associated with food production by eliminating synthetic nitrogen fertilizers and other chemical inputs, reducing tractor use, and reducing transportation through local distribution mechanisms like CSAs, food hubs, farmers markets and direct sales to restaurants and food stores. A network of economically viable family farms brings social benefits and economic stimulus to cities, towns and counties.

A system that pays farms for ecosystem services will enable them to focus on the restoration of our habitat. Prioritizing ecological services can be a challenge while competing to survive in the

industrial global food market. A PES program would bring more young people to work in organic farming and land management, by providing training and a viable career path for the fundamental work of healing land and feeding local communities, especially those that have been and continue to be underserved for far too long. **The state can meet its fiduciary responsibility³ to protect and restore our soil resources by providing income to land managers who can regenerate soil while producing food, fiber, building materials, and medicine.**

As a model for a payment for ecosystem services program, the NRCS Conservation Stewardship Program (CSP) provides a minimum annual payment of \$1500 to every farm that qualifies. However, to truly support the livelihoods of participating farmers, a state program could provide a higher payment that would function as a minimum wage for farmers who commit to regenerating soil while producing food, fiber, building materials, and medicine. In this era of ecological collapse, regenerative land managers are our frontline essential workers. NYS now boasts a Green Amendment to the Bill of Rights of the New York State Constitution; a payment for ecosystem services program would help the State meet its duty to its people as promised, “Each person shall have a right to clean air and water, and a healthful environment” (New York State Constitution, 2022, p. 6).

However, we cannot have clean air and water and a healthful environment without healthy soil. We need progressive soil health policy reflective of a radical shift in societal priorities—a transformation of our collective value system that shifts us to an ecological economy and a culture of soil care—where soil is recognized as “basic infrastructure.”

Through updated and innovative versions of traditional agroecological systems—cover cropping and crop rotations, composting and mulching, perennial crops and agroforestry, adaptive multi-species grazing and organic reduced tillage —farmers can build soil that is healthy. Our focus should be on restoring the carbon cycle.

In keeping with the points we made above regarding AF15, the proof of compliance burden for PES programs must not fall exclusively to farmers. The New York State government has the experience to create a best-in-class PES program that caps the burden on farmers’ reporting to a bare minimum by combining it with existing extension and agency services as well as satellite data and water, air, and soil quality monitoring efforts.

³ § 4. Subdivision 2 of section 2 of the soil and water conservation districts law

AF17. Bolster Local Agricultural Economies

This section recognizes the precarious economic and social situations that too many NY farms are facing. Snarls in longer supply chains due to COVID-19 revealed just how vital local farms are to the food security of NY communities. We support the four components of the strategy to bolster local agricultural economies:

- Expand procurement programs for New York products
- Increase engagement and participation in State programs
- Expand education and outreach for new farmers
- Support new agricultural products

However, NYS can do much more by including local food production in the Climate Smart Communities Program, limiting the conversion of farmland to other uses, implementing “smart growth” policies in urban areas and especially by investing in programs to transfer land control to underserved people. As noted on p. 223 of the Draft Scoping Plan, “This strategy speaks directly to the support of diverse farm operations including BIPOC, women, LGBTQIA+, low income, veteran, and beginning farmers.”

The Department of Agriculture and Markets can expand the NY Grown and Certified program to include recognition of USDA organic certification alongside AEM or as an automatic way to register with AEM since to qualify for organic certification, farms must already have an organic farm plan that includes improving soil health. The program could also be reviewed for opportunities to increase incentives for farmer participation and opportunities to increase the percentage of in-state procurement.

An additional component of this strategy should be to prioritize purchases for state institutions in alignment with the standards of the Good Food Purchasing Program (Bronsing-Lazalde, n.d.). The Good Food Purchasing Program provides a comprehensive set of tools, technical support, and resources to support public institutions shifting to a values-based procurement model. It centers 5 food system values— local economies, animal welfare, environmental sustainability, nutrition, and valued workforce—in equal measure. The program aims simultaneously to hold large vendors accountable to better practices and to increase opportunities for small and historically marginalized vendors (such as Black, Indigenous & POC farmers and food producers) to contract with public agencies. Public institutions in NYC and Buffalo are already participating, with 40+ regional and national food systems experts advocating for the Program’s formal adoption and robust implementation in both municipalities.⁴

To qualify to sell to institutions, farms will need state assistance in meeting the stringent and paperwork heavy requirements of the Food Safety Modernization Act (FSMA).

⁴ Bill [S.7534/A.8580](#) would write the Good Food Purchasing Program (GFPP) into law in NYS.

AF18. Develop Forestry Training Programs to Support Expanding Workforce and Climate Knowledge & AF19. Expand Markets for Sustainably Harvested Durable Wood Products

We support workforce development and training programs for the forest sector, integrating forest carbon and forest carbon management into urban forestry and the other strategies listed in AF 18.

It is important to understand the forest as a system and grant incentives to woodland owners to manage for the long-term health of the entire region. We can sustain a planned local harvest while managing complexity. In fact, promotion of ecological forestry management could help jump-start a “locavore” movement in the timber and wood products industries.

The current prevalent practices of shelterwood and clear cuts may have made sense in our region in the 20th century, but with the advent of climate change, with flash droughts, extreme precipitation events, wind shears, invasive pathogens and pests, we have no guarantee that regeneration will occur on such sites as it once could reasonably be expected to do.

To promote sound management practices, the Scoping Plan should seek to place a moratorium on new biomass projects for heat and energy. The weatherization of homes and subsidies for thermal heat pumps would bring us better gains without further environmental destruction. The Scoping Plan should ensure that Ecological Forestry Management becomes a required practice of the Current Use Value Appraisal program and make managed reforestation an accepted practice for restoring biodiversity and building up our strategic carbon reserves.

AF20. Develop a Sustainable Biomass Feedstock Action Plan and Expand the Use of Bioenergy Products

We share the concerns expressed by the Climate Justice Working Group about the combustion of biomass and biofuels due to their release of emissions and we do not agree that voluntary “sustainability guidelines” will be adequate to prevent excessive harvest of trees that we need for their ability to sequester carbon and other benefits. We suggest removal of this strategy.

AF24. Advance Deployment of Net Negative Carbon Dioxide Removal

We agree that research is needed to identify methods for producing products like biochar and to study the potential benefits of biochar as a soil amendment. However, we oppose public investment in expensive and speculative technologies of direct air capture and carbon removal that enable polluting industries to continue polluting. These loopholes will siphon money away

from meaningful investments in proven solutions like soil health and intentionally managed reforestation.

In other parts of the country, speculative technologies have led to heated disputes. For example, in Iowa and South Dakota, CO2 pipelines are facing opposition from farmers whose prime farmland would be bisected by pipelines, potentially damaging crops and compacting soil (Douglas, 2021). Speculative technologies like CO2 and biogas pipelines could similarly threaten NY's farming and food systems.

Chapter 19: Land Use

We support protecting forest lands and farmland from development (LU 1 & 3), including more funding for Urban and Community Forestry Grants. Establishing a NY Tree or Climate Corps “to provide direct tree establishment and maintenance services to public and private landowners” including farms is also crucial (LU 3).

We support and call attention to the importance of these strategies and for increasing funding for the existing programs for succession planning support and linking available farmland with would-be farmers, especially people of color and farmworkers.

LU5. Mapping, Research, Planning, and Assistance

The strategies in this section that call for conservation planning, research and assistance for local governments and landowners would fit well with a program for payments for ecosystem services (AF16 above). The proposal for a conservation and restoration service corps would be a suitable investment of public funding and an excellent way to train the state's youth while providing meaningful work. **Managing and working on agroecological farms, urban and rural, are the ultimate green jobs.**

A model that we could emulate in NYS is the VT Regeneration Corps, a learning movement supporting youth in gaining the hands-on skills necessary to transition from an extractive culture to one that is regenerative. The content of this collaboration supports student involvement and ongoing community connections in the following areas:

- Just Transition
- Regenerative Agriculture
- Racial Justice
- Climate Mitigation & Adaptation
- Community Organizing & Service-based Projects
- Youth Engagement & Leadership
- Food & Land Sovereignty

LU10. Direct Planning, Zoning, and Pre-Development Assistance to Municipalities

In providing support for local governments in smart growth planning⁵ and regulations, DEC should expand the Climate Smart Community topics for which communities get credit and for which it provides guidance to include local food systems, sourcing from local farms, and expanding resources for urban community gardens and farms.

The creation of a “Sustainable Development/Climate Act Resource Guidebook,” as outlined on page 296, should be done as a participatory process with the involvement of many stakeholders.

Chapter 21. Adaptation and Resilience

AR 1. Creating, Implementing, and Updating a Comprehensive and Equitable State Climate Change Adaptation and Resilience Plan

We support AR 1 and encourage the Scoping Plan to adopt a participatory process that involves stakeholders from all walks of life, including farmers and farmworkers.

Table 17 (p. 311) presents the data on annual property loss from severe hazard events in NY, 1996 – 2017. A comprehensive program to realize ambitious goals for healthy soils throughout the state will reduce the costs, associated with flooding and runoff, from storms. Particularly for small communities, repeated storm damage can threaten the long-term viability so particular attention should be paid to supporting resilience measures for communities most impacted by storm damage (Obudzinski et al., 2022).

We also support AR2: incorporating equity for disadvantaged communities in all measures undertaken to mitigate and protect the state against climate change. And we particularly want to lend our support for the strategies included in the Living Systems theme of climate resilience and adaptation. It is of critical importance to plan for and take measures to conserve and protect ecosystems such as food-producing farming communities, wetlands, wildlife and aquatic corridors, and forest soils. Note, once again, the value of organic and agroecological systems of management to realize these strategies.

⁵ As defined by the NYS Smart Growth Program

Thank you for your time and consideration.

Sincerely,

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