



New York State Climate Action Council Draft Scoping Plan Comments

CHAPTERS ADDRESSED:

CHAPTER 13 – ELECTRICITY

CHAPTER 15 – AGRICULTURE AND FORESTRY

CHAPTER 19 – LAND USE

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“The policy of the state shall be to conserve and protect its natural resources and scenic beauty and encourage the development and improvement of its agricultural lands for the production of food and other agricultural products.”

- Article XIV, Section 4, New York State Constitution

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New York Farmers Are Vital Partners in the Fight Against Climate Change

New York's farmland contributes \$44 billion in annual economic activity to the state's economy and supports 163,000 jobs.¹ New York is also unique in that farmers grow and produce the "full plate," from fruits and vegetables to grains and legumes, to dairy and animal protein.² The need for strong local food systems has become both clearer and more acute during the COVID-19 pandemic with breaks in global food supply chains resulting in empty grocery shelves, increased prices, and delivery delays. In contrast, shorter supply chains founded on local farmland are more resilient to such shocks and disruptions. In the face of rapidly warming global temperatures and increasingly frequent extreme weather events, we must also reckon with a changing understanding of where and how we can grow food. New York will likely play a greater role in national food security in the future due to its fertile land, abundant water, and proximity to population centers. We must keep existing farmland in production, help more farmers access land, and support farmers in adopting sound, climate-smart farming practices in order to secure a viable future for agriculture and meet the state's climate goals.

As New York State mobilizes to take swift and bold action on climate change, farmers are essential allies and a critical part of the state's climate solution. Climate change presents a significant threat to farm viability and productivity. Efforts to mitigate climate change while supporting farm viability and resiliency to extreme weather are imperative to ensure a strong future for agriculture and help the state meet its ambitious climate goals laid out in the Climate Leadership and Community Protection Act (CLCPA).

Further, **there are meaningful economic opportunities in New York for farmers who adopt climate-smart farming practices.** In February 2022, Agriculture Secretary Tom Vilsack announced that the U.S. Department of Agriculture was investing \$1 billion in new Partnerships for Climate-Smart Commodities.³ These finance pilot projects that create market opportunities for U.S. agricultural and forestry products that use climate-smart practices and include innovative, cost-effective ways to measure and verify greenhouse gas reduction benefits. New York is a strategic location for such climate-smart supply chains given the significant agricultural production on farms using climate-smart practices, or able to adopt them relatively quickly, in proximity to 19 million individual consumers, corporations, and other buyers.

The recommendations developed by the Agriculture and Forestry Advisory Panel of the Climate Action Council, on which AFT served, highlight new opportunities to promote climate-smart management of New York's 9 million acres of farmland.⁴ New York's agricultural sector currently represents 6% of total statewide emissions and, importantly, represents one of the only existing and rapidly scalable methods for emissions removal. Unpublished AFT research has shown that New York's producers have important carbon sequestration contributions to make to help the state achieve net-zero emissions. If farmers in New York were to increase cover crop adoption by 25% on all cropland acres (excluding hayland), increase reduced or no-till adoption on 75% of acres being intensively tilled, and increase the use of

¹ Farm Credit East. "Northeast Economic Engine: Agriculture, Forest Products, Commercial Fishing," 2020.

² Libman, Kimberly, Amanda Li, and Christine Grace. "The Public Plate in New York State: Growing Health, Farms and Jobs with Local Food." Saratoga Springs, NY: American Farmland Trust, November 1, 2017.

³ "USDA to Invest \$1 Billion in Climate-smart Commodities, Expanding Markets, Strengthening Rural America." Accessed June 6, 2022.

⁴ Freedgood, Julia, Mitch Hunter, Dempsey, and Ann Sorenson. "Farms Under Threat: The State of the States." American Farmland Trust, May 13, 2020.

dairy manure or compost as a soil amendment on 25% acres currently using synthetic fertilizer, this would reduce between 432,000 and 933,000 metric tons of CO₂ equivalent in GHG emissions annually. AFT's [CaRPE](#) tool, which expands the utility of the data reported by COMET-Planner by layering cropland and grazing land acres data from the 2017 Census of Agriculture, also shows that if farmers were to adopt just those three practices on all the state's cropland, this could annually reduce GHG emissions by over 2.7 million metric tons of CO₂ equivalent annually, which would offset a third of annual agricultural emissions in New York.

Helping farms of all types and sizes implement practices that increase carbon sequestration and soil health can help shift New York agriculture from carbon source towards carbon sink while supporting farmers' bottom-lines and providing key co-benefits like improved water quality, food security, and jobs. Fortunately, programs and mechanisms to deliver financial and technical assistance to farmers implementing climate-friendly farming practices already exist and, with added funding and staff capacity at state agencies, can be rapidly scaled up to accelerate emissions reductions from sources like nitrous oxide and methane and increase carbon sequestration. **Agricultural strategies within the Scoping Plan should be a priority for investment because they offer cost-effective and immediate or near-term opportunities to help the state realize widespread climate, environmental, and economic gains as it works towards its goals.**

Founded in 1980, American Farmland Trust (AFT) is the only national organization that takes a holistic approach to agriculture, focusing on the land itself, the agricultural practices used on that land, and the farmers and ranchers who do the work. Because of this diversity of perspectives, AFT is uniquely positioned to offer recommendations for how New York can implement its climate-smart strategy in a way that benefits farmers while ensuring the continued productivity and resilience of the agricultural economy. AFT has been a leading voice at the intersection of climate change and agriculture for well over a decade, building on our extensive prior work on soil health both in New York and nationally.

Most recently, AFT published a report, "[Combatting Climate Change on US Cropland,](#)" which identifies the substantial carbon sequestration potential of cover crops and no-till. AFT's "Smart Solar Siting on Farmland" report offers a comprehensive framework and series of recommendations to balance renewable energy generation and continued agricultural viability in New York. AFT's "[Farms Under Threat](#)" report has also been a vital source of information for decision-makers in New York and across the country working to protect agricultural resources for generations to come.

In addition to serving on the Agriculture and Forestry advisory panel, AFT has also played a critical role in advancing policies to encourage climate-smart practices, such as New York's Soil Health and Climate Resiliency Act. Moreover, we have on-the-ground experience helping producers implement climate-smart practices in their fields. For example, the [Genesee River Demonstration Farms Network](#) highlights the impacts of practical and innovative conservation practices on farm viability, water quality, and other natural resources, demonstrated on real working New York farms. AFT's [Women for the Land](#) initiative works in Western New York and across the country to empower women landowners through peer-to-peer networks and learning circles to adopt environmentally sound farming practices, protect farmland, and improve the viability of their farms. AFT has also developed multiple [planning resources](#) to help counties and municipalities plan for the future of agriculture in their communities. This deep history of research, advocacy, and on-the-ground experience informs the following comments on Chapter 13 Electricity, Chapter 15 Agriculture and Forestry, and Chapter 19 Land Use.

Summary of Recommendations

Chapter 15 Agriculture and Forestry

- 1) Increase financial and technical assistance available to farmers to help them learn about and implement new practices and techniques, including adopting new equipment and technology.
- 2) Prioritize equitable access to programs for farms of all types and sizes and farmers and routine evaluation of programs through an equity lens to ensure they are supporting participation of underserved farmers, including Black, Indigenous, and People of Color (BIPOC) producers.
- 3) Invest in a comprehensive research and development strategy to establish carbon emissions reductions goals and benchmarks, measure and verify real emissions reductions, and track the agricultural sector's progress.

Chapter 19 Land Use

- 1) Support and coordinate efforts to plan for agriculture at the state, county, and municipal levels within comprehensive plans, farmland protection plans, smart growth strategies, and other planning efforts.
- 2) Provide planners and decision-makers with up-to-date information about agricultural resources within their communities, including soil quality, producer and market characteristics, and farmland loss.
- 3) Bolster the Farmland Protection Implementation Grants and Farmland Protection Planning Grants programs and pass Community Preservation Act legislation to help accelerate farmland protection in New York.
- 4) Invest in land access programs like Farmland for a New Generation New York to help bring a diverse new generation of farmers on to the land and maintain food security and carbon sequestration gains into the future.

Chapter 13 Electricity

- 1) Engage communities early and consistently throughout solar siting processes to maximize community benefits and minimize negative impacts to agriculture.
- 2) Implement smart solar strategies to ensure solar development avoids, minimizes, or mitigates impacts to farmland.
- 3) Invest in research and market incentives to establish New York as a national leader in agrivoltaics.

CHAPTER 15 Agriculture and Forestry

Implementing Climate-smart Farming Practices: A Win for Farmers and New Yorkers

Farmers are at the forefront of the fight against climate change and will continue to play a critical role stewarding New York's over 9 million acres of farmland, of which a quarter is carbon-sequestering woodland.⁵ Producers are implementing innovative practices to help them weather increasingly frequent challenges like flooding, drought, and disease and pest pressures while simultaneously building healthy soils capable of sequestering carbon and protecting water resources. The Climate Scoping Plan rightly identifies maximizing carbon sequestration potential as a key strategy to help New York achieve its climate goals. Unlike almost any other sector, agriculture has the potential to produce net neutral greenhouse gas emissions.⁶

However, agriculture is different from other carbon-capturing industries because its management decisions are made annually. A farmer must sustain certain actions, while avoiding others (such as development or tillage), to grow, or even maintain, the level of carbon. For instance, if a farmer implements conservation tillage one year, and then plows the next, the climate benefit is limited. In addition, not all climate-smart practices deliver the same level of benefit. To either actively sequester or maintain carbon, it is important that farmers are incentivized to continue adopting soil health practices or maintain and manage perennials for a sustained period. **Certain practices – and especially practice bundles – should be prioritized for their mitigation potential as well as their additional environmental co-benefits.** These include achieving maximized live plant soil cover, production system resilience, water quality and quantity, flood and drought resilience, and wildlife habitat.

Many climate-smart practices, particularly advanced feed and nutrient management and soil health practices, create farm operation efficiencies that benefit individual farmers' bottom lines and deliver a strong "win-win" for their farm business and the climate. These strategies are particularly important in this moment in history because they align with farmers' business goals at a time when input costs are rising above what farmers can afford. These strategies should be a priority for expanded financial and technical assistance in the near term as up-front costs, perceived risk of revenue loss, and a lack of knowledge and training are among the largest obstacles to widespread implementation.

Greater adoption of practices can be achieved by increasing research, outreach, education, and technical assistance support to help impacted producers understand how these management shifts cut their costs, while incidentally improving environmental outcomes. Finding innovative ways to partner with private industry and crop advisors will also be important to achieving widespread practice adoption. With the right support to alleviate up front cost and time burdens and to support planning to engage in more intensive management strategies, farmers can improve farm profitability, increase carbon sequestration, decrease GHG emissions, and realize additional environmental co-benefits. Alongside efforts to quantify, verify, and measure the real nitrous oxide, carbon, and methane emissions reductions these practices will achieve, **investing in feed, nutrient, and soil health management**

⁵ Freedgood, Julia, Mitch Hunter, Dempsey, and Ann Sorenson. "Farms Under Threat: The State of the States." American Farmland Trust, May 13, 2020.

⁶ McDonnell, Todd, Timothy Sullivan, Peter Woodbury, Jenifer Wightman, Grant Domke, C.M. Beier, and C. Trettin. Sources and Sinks of Major Greenhouse Gases Associated with New York State's Natural and Working Lands: Forests, Farms, and Wetlands, 2020.

strategies is among New York’s greatest near-term opportunities to invest in contributing to CLCPA goals within the agriculture industry while positively impacting farmers’ bottom lines.

Support Farmers to Achieve Widespread Adoption of Climate-smart Farming Practices (AF9-17)

Farmers face many challenges changing or adopting new farm management systems while working to remain productive and profitable. Cost, in both time and money, is the number one barrier identified by farmers, followed closely by perceived risks to yield and revenue, lack of technical support and guidance, and lack of secure land tenure.⁷ Climate-smart practices like installation and maintenance of cover and flare systems on manure lagoons will require greater financial incentives to spur farmer adoption than nutrient and feed management or soil health practices because they are costly for farmers to implement, operate, and maintain and, while they may improve neighbor relations, they do not substantially or immediately improve farm viability. These strategies will require greater outreach and ample financial support for these capital costs and maintenance.

Practice implementation barriers are especially acute for new, young, marginalized and under resourced producers, and for smaller farms that do not benefit from efficiencies of scale. These types of farmers and operations require greater, and in some cases targeted, support. **Providing the right kind of support to farms of different sizes and types is key to fostering the widespread behavioral change needed to achieve the state’s goals.** Promoting early adopters and sharing how they made new systems work for their operation, supporting peer-to-peer networks, and providing cost share and trustworthy, practical technical assistance are critical strategies to foster these shifts.

Insecure land tenure poses a barrier to implementation of all the strategies within Chapter 15 and must not be overlooked. Without long-term land ownership or leasing, farmers are less willing to invest in specialized equipment or challenge established farming practice norms within their communities because there is greater risk they will not receive the long-term rewards of their investments in their soils and farm operations.⁸ Continuing to support permanent farmland protection and farmland access programs, like [Farmland for a New Generation New York](#), and other policies to transition land ownership to a new diverse generation of farmers are all critical to ensuring that farmers have the secure land tenure they need to make long-term investments. Supporting land access is also particularly important to achieving the equity components of the CLCPA as most young, new, beginning, and BIPOC farmers start out renting land.

Farmland for a New Generation (FNG-NY) is a nation-leading, publicly-funded partnership between the New York State Department of Agriculture and Markets, American Farmland Trust (AFT), and other organizations across the state, that helps farmers find land, assists landowners in making their land available for farming, and supports senior farmers in transitioning their land to a new generation. Launched in October of 2018, FNG-NY offers a one-stop-shop with information and services for farmers and landowners across New York, including a website, www.nyfarmlandfinder.org, that hosts farm, farmer, farm job, and event listings; training materials; model documents; and a first point of contact

⁷ Roesch-McNally, Gabrielle E., Andrea D. Basche, J.G. Arbuckle, John C. Tyndall, Fernando E. Miguez, Troy Bowman, and Rebecca Clay. “The Trouble with Cover Crops: Farmers’ Experiences with Overcoming Barriers to Adoption.” *Renewable Agriculture and Food Systems* 33, no. 4 (August 2018): 322–33. <https://doi.org/10.1017/S1742170517000096>.

⁸ Ibid.

with AFT’s expert staff to help farmers navigate leasing and purchasing strategies, land conservation, agricultural assessment, and other land access topics.

The program’s network of 34 Regional Navigators – including CCE offices, land trusts, and agricultural nonprofits – have provided virtual and in-person coaching, training, and one-on-one support to help farmers find secure land tenure, afford farmland, and launch successful farm businesses. Since its launch in 2018:

- Over 100,000 users have visited the site;
- Nearly 3,000 farmers and landowners have attended informational or networking events;
- Regional Navigators have provided nearly 2,300 farmers and landowners with one-on-one support;
- Over 1,400 farm seekers and farmland owners have posted profiles; and
- AFT has provided 850 farmers and landowners with one-on-one technical assistance;
- This program has successfully facilitated 91 matches of farmers to 4,345 acres of land. Given the average sales per acre in New York, these matches have avoided the loss of over \$3.3 million in farm sales since 2018.

Nearly 40% of agricultural land is rented in New York, and AFT research has found many non-operating landowners (NOLs) to be deeply committed to the health of their land, but not necessarily aware of related practices and state or federal cost-share opportunities.⁹ In a survey of 302 New York NOLs, 95% or more respondents cited the ability of operators to maintain good soil productivity and avoid soil erosion or contaminating waterways as somewhat or very important factors when evaluating current or potential farm operators. Landowners had a high level of trust in farm operators to make good conservation decisions (88%) and showed a willingness to make changes to lease agreements to incorporate and allow for implementation of conservation practices. Landowners expressed interest in greater access to educational materials and technical assistance targeted towards them providing information about water quality and soil fertility improvement, soil erosion control, and conservation programs.¹⁰ AFT’s [Women for the Land](#) program and the [Hudson Valley Non-Operating Landowner Network](#) project have built innovative programs tailored to reach, inform, and meet the conservation needs of this community.

Existing Environmental Protection Fund (EPF) programs like the Climate Resilient Farming Grants (CRF), Soil and Water Conservation Districts (SWCDs), Agricultural Environmental Management (AEM), and Agricultural Non-Point Source Pollution programs (AgNPS) provide a strong existing framework of support to quickly implement many of the strategies outlined in Chapter 15 to achieve GHG emissions reductions in the agriculture sector. However, reaching the level of adoption needed to accomplish these goals will require increasing the reach and effectiveness of these well-established and trusted programs and strengthening the existing network of technical assistance and service providers. **This will in turn require substantial new levels of investment in these EPF programs, new workforce development, more widespread outreach to farmers and landowners, and a research and**

⁹ USDA NASS. “Table 76. Summary by Tenure of Farm Operation: 2017.” USDA 2017 Census. Washington, DC. Accessed June 8, 2022.

¹⁰ Roesch-McNally, Gabrielle, Peg Petrzela, and Matthew Barnett. “Non Operator Landowner Survey: New York Results.” Non-Operator Landowner Survey. Washington DC: American Farmland Trust, November 1, 2019.

development strategy to identify novel approaches to reduce emissions, increase sequestration capacity, and measure and verify these achievements.

RECOMMENDATION: Increase financial assistance available to farmers.

In order to reduce emissions and increase farm resilience and carbon sequestration in the agricultural sector, farmers will need to learn about new practices and techniques and become familiar with and adopt new equipment and technology. Farmers will also need up-front financial support in the form of cost share, loan guarantees, or payments, particularly for practices that deliver key climate benefits but provide minimal or delayed support to farmers' bottom lines. The FY2023 state budget included historic and much celebrated levels of funding for SWCDs, CRF, AEM, and AgNPS **that will need to grow further over the coming years.**

Innovative new funding mechanisms will also be necessary. No other funding sources currently exist outside the EPF that can infuse robust investment to achieve the goals laid out in Chapter 15. If passed, the \$4.2 billion Environmental Bond Act includes at least \$100 million for climate adaptation and mitigation projects that could support additional investment in CRF for farm infrastructure and equipment that reduce emissions, such as cover and flare systems or no-till tractor attachments. Additionally, while the authority to use funds from carbon markets in New York and California may vary, New York could replicate California's method of investing carbon market into permanent farmland protection (See: [CA Sustainable Agricultural Lands Conservation Program](#)) or supporting the adoption of soil health practices (See: [CA Healthy Soils Program](#)). Other innovative methods of financing to support adoption of climate-smart practices, such as through a Payment for Ecosystem Services model, will also be needed to achieve the scale needed.

RECOMMENDATION: Allocate state funding to support technical assistance for farmers, including from non-profit conservation organizations, Cornell Cooperative Extension, and other agricultural service providers.

Successful implementation of many of the strategies identified relies heavily on farmers having access to quality information from trusted advisors on why to incur, and how to minimize, the cost and risk of changing their management systems and practices. The best way to ensure this information is available is by building networks of trusted technical service providers able to provide on-the-ground support to farmers as they transition to climate-smart production practices. Many climate-smart practices, such as nutrient and feed management, no-till, cover crops, and crop rotations and other soil health practices, require a systems approach to thinking that are complex and need ongoing coaching for farmers, and often for non-operating landowners too. Technical assistance can range from teaching new techniques, to working one-on-one with producers in the field to troubleshoot new practices, to helping producers and non-operating landowners apply for state or federal cost share programs. In addition to overcoming technical barriers, appropriate assistance will also help overcome social barriers where climate-smart practices are seen as undesirable because they are not "what has always been done."¹¹

¹¹ Roesch-McNally, Gabrielle E., Andrea D. Basche, J.G. Arbuckle, John C. Tyndall, Fernando E. Miguez, Troy Bowman, and Rebecca Clay. "The Trouble with Cover Crops: Farmers' Experiences with Overcoming Barriers to Adoption." *Renewable Agriculture and Food Systems* 33, no. 4 (August 2018): 322–33. <https://doi.org/10.1017/S1742170517000096>.

Technical assistance providers include Extension agents, SWCD and NRCS staff, private advisors, farmers, and non-profit agricultural and conservation organizations. Except for private advisors who may collect a fee-for-service, NGOs and government assistance is often provided to farmers and non-operating landowners free of charge, and therefore this support must be financed through grants and public dollars. **In order to have a robust sector available to provide this necessary technical assistance to producers, sufficient public funding and grants must be made available for this purpose and for research and demonstrations to ensure these providers are basing their advice on reliable, science-based information.**

AFT recommends the state make funding available to expand the capacity of Cornell Cooperative Extension, SWCDs, non-profit conservation organizations, and other agricultural organizations to deliver comprehensive training and provide direct 1:1 coaching and technical assistance to farmers, non-operating landowners, crop advisors, and service providers in the use of nutrient management tools, sustained planning, adaptive management, and implementation of practices. It is important NYSDAM ensure funding for these services goes to BIPOC-led organizations and organizations experienced in working with underserved farmers.

Finally, farmers trust and learn best from other farmers. As part of these funds, AFT recommends NYSDAM support non-profit conservation organizations, Cornell, SWCDs and others in engaging early adopters in peer-to-peer outreach and education and on-farm demonstrations, particularly where current gaps in these critical opportunities exist. Many producers across the nation have adopted, maintained, and developed climate-smart agricultural practices for years, if not decades. These early adopters have significant value as educators, mentors, and members of peer-to-peer support networks for farmers new to climate-smart agriculture. These producers should be incentivized to contribute to outreach and education efforts while maintaining or improving their own management systems. For example, AFT's [Genesee River Demonstration Farms Network](#) works with farmers to demonstrate conservation practices on more than 40,000 acres, share information and lessons learned, and facilitate farmer-to-farmer conversations about their practices.

[RECOMMENDATION: Ensure programs incentivizing the implementation of climate-smart practices are inclusive of all farm sizes and types and prioritize reaching historically marginalized producers.](#)

All farms, regardless of size or type, can contribute to achieving New York's climate goals. AFT urges NYSDAM to create a deliberate, stakeholder-informed strategy to ensure incentive programs and technical assistance for implementing climate-smart programs are equitably accessed. This should include reviewing existing programs for gaps in outreach and engaging with the communities where gaps exist to develop plans to ensure all producers are able to access services and support. Program rules may also need to be revised, or new tracks or carveouts created, to address gaps in service and ensure New York is supporting a widespread transition to climate-smart agriculture on all farms. This is particularly important in the dairy industry, where both large and small dairy operations can implement feed and nutrient management strategies but may need technical and financial assistance customized to their different needs.

AFT encourages routinely evaluating programs specifically through a racial equity lens to ensure they are supporting participation of Black, Indigenous, and People of Color (BIPOC) producers. AFT recommends NYSDAM work to hire additional staff and collaborate with external partners with a goal of building trust, particularly with BIPOC, to better reach historically marginalized farmers. NYSDAM can also

support equity by translating and providing program information and application materials into multiple languages when they are made available in English.

RECOMMENDATION: Prioritize support for practice adoption on permanently protected farmland.

Protected farmland will remain more affordable for farmers, and available for production, carbon sequestration, and other ecosystem services in perpetuity. Producers farming permanently protected agricultural land have also been shown to have a higher rate of conservation practice adoption, highlighting the importance of priority enrollment.¹² As such, protected farmland should be prioritized for conservation planning and for participation in CRF, AEM, AgNPS, and other programs.

Establish Goals and Benchmarks for Implementation of Chapter 15 Strategies and Invest in Research to Better Measure and Track On-Farm Emissions Reductions (AF14-15).

Tracking and capturing the impacts of activities undertaken within the agricultural sector at the farm, regional, and state level over time remains a major challenge and underscores the need for a plan from the outset. In order to reach the emissions reduction goals for agriculture detailed in the Scoping Plan, AFT recommends NYSDAM model and establish benchmarks, goals, and strategies to measure and verify real emissions reductions and carbon sequestered by actions taken in this sector. These goals should be tied to actions taken by producers that will produce real, verifiable, additional, and permanent emissions reductions and numerically contribute to achievement of these goals over time. **AFT urges NYSDAM to prioritize this activity given the importance of reducing methane emissions through multiple strategies to help New York achieve its climate goals.**

Fundamental questions surround the quantification of net reductions in GHG emissions from various practices, verification of practice implementation and performance, and satisfaction of differing permanence and additionality standards. Long term funding is needed for applied research on the emissions reduction, carbon sequestration, and water quality (e.g., nitrogen, phosphorus, sediment) outcomes of different climate-smart practices and management systems to improve outcomes measurement of practice adoption, inform GHG reduction accounting models, and refine (or define) goals and benchmarks over time.

Specific sector-level targets can also inform outreach and help technical assistance providers and planners track what actions are taken, how they are contributing to emissions reduction over time, and how much more is necessary to achieve emissions reduction goals. Increasing the use of AEM GHG and carbon planning in the field can help farms identify and engage in additional climate-smart agriculture practices and provide key information that can be filtered from plans into regional or statewide modeling to determine how close or far the sector may become to achieving sector-level targets for emissions reductions.

Research is also needed to continue refining existing practices and developing new technologies to help all types of producers (crop, livestock, dairy, poultry, etc.) further reduce emissions over time. The Scoping Plan identifies areas for further research in feed additives to reduce emissions. Other priority

¹² Esseks, J. Dixon, and Brian Schilling. "Impacts of the Federal Farm and Ranch Lands Protection Program: An Assessment Based on Interviews with Participating Landowners." Northampton: American Farmland Trust, June 30, 2013.

research areas could also include biochar, silvopasture and agroforestry applications across different production systems, development of new perennial varieties, and conservation crop rotation systems.

Implement Soil Health and Climate Resiliency Act to Support Widespread Adoption of Soil Health Practices (AF12-13, AF16)

Soil health practices help increase soil organic matter, sequester carbon, maintain and enhance soil structure to increase water infiltration to reduce drought stress and decrease runoff after heavy rains, support proper uptake of nutrients by plants, and maintain or improve crop yields.¹³ Adoption of soil health management practices and systems have also been shown to pay off for farmers after a few years of investment. Examples of soil health practices include things like planting cover crops, implementing conservation crop rotations, planting perennials, prescribed grazing, improved nutrient management and application of compost, and conservation tillage.

AFT's ongoing case [soil health case studies](#) of four farms in New York found that total greenhouse gas emissions decreased by an average of 279%. Looking at 8 farms nationally with water quality impacts, AFT found that all farms observed reduced soil and water runoff on their fields or believe less nitrate is entering the groundwater thanks to the soil health practices they implemented. USDA's Nutrient Tracking Tool estimated that on each farm's field selected for analysis (ranging between 10 and 175 acres in size), the soil health practices implemented reduced nitrogen losses 43%, phosphorus losses 73%, and sediment losses 80% on average.¹⁴

Fostering widespread increased adoption of soil health will require a multi-part strategy that includes

- Supporting on-farm demonstrations and peer-to-peer networks that help producers gain practical information from sources they trust and increase willingness to try new ways of farming
- Increasing the availability of quality technical assistance to help farmers understand which soil health practices work within their farming systems and what is needed to adopt them; and
- Providing cost share or financial support to farmers for the costs incurred, which may include new equipment or seed purchases, yield losses during the transition period, and support for farmers' time as they transition away from business-as-usual to new production systems.

As New York expands programs, support, and other opportunities to build soil health, it is important to center equity and access in this process from the outset. The recently passed Soil Health and Climate Resiliency Act directs the Soil and Water Conservation Committee to prop up new initiatives and support more producers in adopting soil health practices. **As this process gets underway, it will be critical to engage urban growers, farmer-renters, women, BIPOC, and other historically marginalized farmers to provide feedback from the outset on how current program offerings do or don't support their unique needs to ensure an inclusive system of support moving forward.**

The 2021 Soil Health and Climate Resiliency Act also directed NYSDAM to initiate a process to set voluntary, science-based soil health standards farmers can work towards based on their system, region, climate, soil type and more. AFT recommends that NYSDAM accelerate its work with the Cornell Soil

¹³ "Soil Health Case Studies Findings." American Farmland Trust. Accessed June 8, 2022. <https://farmland.org/soil-health-case-studies-findings/>.

¹⁴ Ibid.

Health Initiative and other stakeholders to establish these voluntary standards, and then use these as a foundation to establish goals and targets for soil carbon sequestration potential and number of acres of farmland enrolled in different healthy soils practices. This will help inform technical assistance providers and outreach and give farmers specific targets to aim towards that will support achievement of CLCPA goals.

AFT supports NYSDAM's current efforts to incorporate agroforestry projects through the CRF program, including exploring adding a designated fourth program track. CRF could also be leveraged to support expanded silvopasture practices. Finally, AFT supports the exploration and development of a statewide Payment for Ecosystem services, which can support farm viability and sustained implementation of soil health and other climate-smart practices over the long term, ensuring GHG emissions and carbon sequestration benefits are maintained into the future.

Expand New York's Farm to School Programs to Increase Access to New York Grown Food (AF17)

Strong markets for agricultural products are integral to keeping farm businesses viable, ensuring land remains in farming, and providing a bright and appealing future for future generations of farmers. In the absence of profitable markets and sufficient supply chain infrastructure, farmers may lack the means to implement and maintain climate-smart farming practices over the long term or could even ultimately go out of business, increasing the risk more farmland will be fragmented or lost. The COVID-19 pandemic has further emphasized the need to build resilient regional food systems that feed communities, support greater equity, and build economic opportunities.

New York's public institutions are key vehicles to spur widespread food systems change by supporting the creation and growth of new markets and driving investment in supply chains to provide new products. Through its agencies and public facilities, New York State spends more than \$957 million to feed approximately 6.6 million people annually, a majority of which is through the emergency food system and K-12 schools.¹⁵ For children across New York, school meals serve as a key source of sustenance and nutrition and serve students on average half of their daily calories.¹⁶ Raising the quality and reducing the carbon footprint of these meals by including more New York grown food can improve student health and academic performance and teach kids healthy habits that will last a lifetime while supporting farm viability and rural communities in New York. Markets and products created to meet farm to school demand also make it easier for not only other schools, but also hospitals, universities, and other large institutions to increase their purchases of New York grown food.

New York's Farm to School incentive and grants programs have positioned the state as a national farm to school leader by rewarding schools that spend at least 30% of their lunch budget on foods from New York farmers with quadruple their per lunch meal reimbursement, and by providing them with some of the support they need to get there. Research conducted in the summer of 2020 revealed that, with continued commitment to its improvement, New York's Farm to School program has the potential to generate over \$300 million in school spending on food from New York farmers by 2024 with up to half a

¹⁵ Libman, Kimberly, Amanda Li, and Christine Grace. "The Public Plate in New York State: Growing Health, Farms and Jobs with Local Food." Saratoga Springs, NY: American Farmland Trust, November 1, 2017.

¹⁶ Centers for Disease Control and Prevention. 2015. "America's schools make positive changes to create healthier school meals." Retrieved from <https://www.cdc.gov/media/releases/2015/p0827-school-meals.html>

billion dollars in total economic impact - a return on investment of \$3.50 for every taxpayer dollar spent.¹⁷

RECOMMENDATION: Expand Farm to School Reimbursement Incentive Program to include all school meals and increase funding for the Farm to School Grants Program.

The Farm to School Reimbursement Incentive has so far generated \$13 million in recorded spending and already led to the creation of diverse New York products like apple sauce, grape juice, granola, cheese sticks, tortilla chips, and more. However, the separation of lunch from other school meals, implementation challenges, and an oversubscribed farm to school grants program have stifled widespread participation in the incentive program since its inception four years ago and prevented it from achieving its full potential. While this incentive has generated substantial interest in local purchasing among schools, there has been only marginal growth in successful participation.

Much of this growth has been unlocked by the Farm to School Grants Program, which provides critical funding for the training, staff, and equipment that are instrumental to helping schools build the on-ramp to achieve 30% spending on New York grown foods. Farm to School coordinators work with both farmers and school staff to help establish successful purchasing partnerships and overcome procurement, administrative, and food preparation barriers. Last year, a Regional Farm to School Coordinator Program was created as a partnership between NYSDAM and Cornell with the goal of ensuring a regional coordinator was available to every school in the state.

AFT encourages the State to increase investment in the Farm to School Grant program to meet long-standing school demand and expand the current Farm to School Reimbursement Incentive Program so that schools that spend 30% of *total* reimbursable meal costs on New York grown foods served at breakfast, lunch, or snack are eligible to receive an additional 30 cents in reimbursement; up to 11 additional cents per breakfast meal served and 19 cents per lunch meal served. This minimal added reimbursement and expansion of eligible meals will address current administrative challenges and empower schools across the state to increase purchasing of New York grown food, spurring the growth of this yet-untapped market.

RECOMMENDATION: Modify procurement rules to support increased local purchasing and reward farmers that implement climate-smart practices.

Procurement laws are designed to promote fairness and fiscal responsibility within the bidding process by requiring institutions to choose least cost options. Schools are required to award contracts to the lowest cost, most responsive bidders – but, this sometimes hinders their ability to purchase products that may better align with institutional values like sourcing locally-grown or environmentally sustainable foods, which are often not the least-cost option. Shifting the procurement system away from favoring least-cost alone would help schools buy more local foods while contributing to resilient local supply chains and reward farmers implementing climate-smart farming practices. AFT recommends increasing the state Small Purchase Threshold in GML § 103 so that schools have more flexibility to purchase fresh food directly from New York farmers using prescribed and regulated informal bidding methods.

¹⁷ Levy, Samantha, and Mikaela Ruiz-Ramon. "Growing Resilience: Unlocking the Potential of Farm to School to Strengthen the Economy, Support New York Farms, and Improve Student Health in the Face of New Challenges." Saratoga Springs: American Farmland Trust, December 9, 2020.

CHAPTER 19 Land Use

We Must Save the Land that Sustains Us to Maintain Climate Gains into the Future

Farmland is an irreplaceable resource that is all too often taken for granted, as are the farmers who own and manage it. AFT’s 2020 “*Farms Under Threat: The State of the States*” report revealed that New York is among the states with the highest farmland conversion threat in the nation –over a quarter of a million acres of farmland were developed, or fragmented by low-density residential development, between 2001 and 2016 alone. Over half of this loss occurred on the most productive, versatile, and resilient farmland – the best soils for growing food and crops over time with minimal environmental impact.¹⁸ Farmland loss has been concentrated around urban areas in New York and created disproportionate pressure for some counties, particularly those around urban centers that serve as “foodsheds.” Of the ten counties with the highest percentage of farmland loss during this period, seven grow fruits and vegetables as a primary crop, and most are near or contain major urban centers that need this fresh healthy food.¹⁹

New York’s farmland is under further threat due to an impending intergenerational transition. Farmers comprise only 2% of the population, and their average age is over 57 years old, with roughly a third over the age of 65. Ninety-eight percent of farmers in New York are white, and the average ratio of farmers over 65 to farmers under 35 statewide is 4:1, with individual county ratios as high as 11:1 in Broome, 7:1 in Saratoga, and 6:1 in Greene.²⁰ AFT research found that senior operators own or rent over 2 million acres of land, and 92% of them don’t have a successor prepared to take over.²¹ Meanwhile, young, new, and beginning farmers, and farmers of color face significant barriers finding affordable land from which to launch successful farm businesses.

Keeping land in farming ensures a viable future for New York agriculture and retains environmental benefits that combat climate change and protect the health of New Yorkers. Loss of high-quality farmland to development not only diminishes food production and carbon sequestration capacity, it also frequently pushes farming to more marginal lands that require greater inputs, leading to greater environmental impact to achieve comparable production. Strategic farmland protection coupled with smart growth planning can have significant GHG emission reduction benefits.²² Participation in farmland protection programs has also been shown to encourage the adoption of climate-friendly conservation practices.²³

It is vital to prioritize and support farmland protection, take measures to avoid further conversion of farmland like smart growth planning, and develop updated farmland protection plans at both the

¹⁸ Freedgood, Julia, Mitch Hunter, Dempsey, and Ann Sorenson. “Farms Under Threat: The State of the States.” American Farmland Trust, May 13, 2020.

¹⁹ AFT analysis of Farm Under Threat and USDA 2017 Census Data

²⁰ “USDA - National Agricultural Statistics Service - 2017 Census of Agriculture - Volume 1, Chapter 1: State Level Data – New York,” 2019.

²¹ American Farmland Trust. “Keeping Farmers on the Land: New Research Underscores Need To Address Farm Transition in New York.” Saratoga Springs, NY, April 2016.

²² Thompson, Edward, and Virginia Jameson. “Agricultural Land Conservation: An Important Part of California’s Climate Strategy.” Sacramento, CA: American Farmland Trust, April 1, 2016.

²³ Esseks, J. Dixon, and Brian Schilling. “Impacts of the Federal Farm and Ranch Lands Protection Program: An Assessment Based on Interviews with Participating Landowners.” Northampton: American Farmland Trust, June 30, 2013.

county and municipal level. New York’s farmland protection program in the Environmental Protection Fund purchases agricultural conservation easements from farmers so that land can remain in farming forever and has thus far permanently protected more than 97,000 acres of farmland through this voluntary grant program – about 1% of New York’s total farmland.²⁴ As high land prices and pressures from industrial, residential, and renewable energy development continue to increase and take farmland out of production, New York must ramp up its efforts to protect farmland to secure its current and future economic, environmental, and carbon sequestration benefits.

Elevate Farmland in State, County, and Municipal Mapping, Research, and Planning Efforts (LU5, LU7)

Supporting and coordinating efforts to prioritize agriculture in planning at the state, county, and municipal levels is key to stemming the tide of farmland loss and ensuring New York has enough farmland to support a thriving agricultural sector that provides food, livelihoods, and environmental benefits for all New Yorkers long into the future. Comprehensive plans, farmland protection plans, and smart growth strategies are all tools that can help communities strategically balance their land-use needs. It is vital to consider impacts to farmland and focus on Smart Growth principles as the state builds out its energy, transportation, and housing infrastructure; spearheads new economic development initiatives; and plans for more resilient cities, food systems, and more.

RECOMMENDATION: Research avoided farmland conversion impacts and provide data to decision-makers engaged in farmland protection planning.

In order to develop and update state, county, and municipal comprehensive plans for agriculture, decision-makers need access to up-to-date information on the state of agricultural viability and farmland statewide and in their communities. Many datasets are already publicly available but are scattered across state and federal websites and unknown to or difficult to access for planners, especially those less familiar with agriculture. AFT recommends NYSDAM develop a centralized agricultural information resource webpage where planners can access information like:

- NYS Mineral Soil Groups 1-10
- Farm, farmer, and production characteristics
- Implementation of new and existing conservation practices on farmland, such as cover cropping
- Processing infrastructure, market outlets, and sales type data
- NRCS soils data for New York
- USDA census data for New York

AFT has developed multiple tools including its [Agricultural Viability Index](#), [Farms Under Threat interactive website](#), and [CaRPE tool](#) that can also help decision-makers evaluate the agricultural resources within their communities.

AFT encourages NYSDAM to work with non-profit conservation organizations and other recipients of farmland protection grants to assemble an updated GIS layer of protected farmland parcels and thereafter update it biannually. Reliable, up-to-date geospatial data can help the Department track its progress working towards goals like 30x30 and help the state define and identify farmland where priority conservation activities are implemented. It would also support research into avoided conversion

²⁴ As of 3/31/2022

of farmland like quantifying No Net Loss (NNL) of farmland, GHG emissions reductions from avoided conversion, and impacts of policy decisions on land conversion.

RECOMMENDATION: Develop a statewide farmland protection plan outlining goals for farmland protection and align other state investments with the statewide plan.

AFT recommends New York develop a statewide farmland protection plan with clearly defined and articulated agricultural land preservation goals that identifies priority areas for farmland protection, existing resources and gaps in farmland protection infrastructure, and strategies to reach and educate landowners about farmland protection as part of broader conversations about farmland transition. This plan could be developed independently or as part of a larger strategic plan for agriculture, like [Pennsylvania's 2019 state Farm Bill](#). A New York comprehensive plan for agriculture could help the state strategically prioritize investments to support increased adoption of climate-smart agricultural practices, help farmers achieve voluntary soil health standards, keep land available and affordable for a new generation of farmers, foster food system resiliency, and invest in a strong and resilient future for agriculture.

RECOMMENDATION: Require inclusion of farmland considerations in municipal land use and comprehensive plans and rejuvenate the Farmland Protection Planning Grants (FPPG) program.

Municipalities should be required to include farmland protection considerations in land use laws and comprehensive plans and strongly encouraged to develop farmland protection plans. The Farmland Protection Planning Grants program currently supports the development of municipal and county agriculture plans but needs additional staff and funding to provide outreach and technical and financial assistance to counties and municipalities. The current maximum grant amounts of \$25,000 and \$50,000 set in statute for towns and counties, respectively, should be updated to reflect inflation and changes in real costs since the statute was passed over a decade ago. AFT recommends making municipalities eligible to apply for funds to update their plan at least every decade. AFT encourages the state to develop mechanisms to ensure consistency and alignment between state, county, and local farmland protection goals.

Protect Farmland to Preserve Agricultural Viability and Support a New Generation of Farmers (LU3)

Increasing the rate of farmland protection in New York is essential to avoid GHG emissions from further land conversion, ensure climate gains on farmland from implementation of conservation practices are maintained, and keep land available and affordable for current and future generations of farmers. A well-funded farmland protection program also plays an integral part in a successful intergenerational transition by helping aging farmers afford retirement without having to sell their land for development. Extinguishing the right to develop the property also lowers the market value of farmland, keeping it affordable for a new generation of farmers. There are numerous examples across New York of the farmland protection program enabling the intergenerational transition of land by bridging the gap between what farmers need to sell their land for, and what younger farmers – even within the same family – can afford to pay. [Farmland for a New Generation New York](#) works in complement with the state farmland protection program to bring a diverse new generation of farmers onto farmland.

RECOMMENDATION: Accelerate the contracting process for new Farmland Protection Implementation Grant (FPIG) projects and help increase the number of specialized professionals who support farmland protection work.

Farmers and non-profit conservation organizations are ready to step up farmland protection efforts, but the FPIG program's ability to accelerate these efforts in New York is constrained by insufficient program funding to meet farmer demand, delays in creating new state contracts and providing timely payments, limited number of agency staff to review applications, and a depleted skilled workforce of appraisers, attorneys, accountants, and other supporting professional experts familiar with agricultural lands and enterprises that can provide the information required to complete FPIG projects. AFT recommends working with professional associations to help train more experts in this specialized area.

The state also needs to empower the Division of Budget and NYSDAM to prioritize completing and paying out FPIG contracts to farm families as quickly as possible and continue to release new FPIG RFP or RFA opportunities on a consistent annual or biannual basis. Thanks to consistent state investment in farmland protection over the past few years, New York non-profit conservation organizations have invested in additional staff capacity and worked to cultivate strong prospective project pipelines in their communities. With additional NYSDAM staff capacity and program funding through the EPF, and, hopefully the Bond Act, **New York could achieve an ambitious farmland protection goal like protecting 200,000 acres of farmland by 2035.**

RECOMMENDATION: Develop strategies to engage landowners in conversations about land transition and succession planning and support Farmland for a New Generation New York (FNG-NY)

AFT recommends NYSDAM work with non-profit conservation organizations, Cornell Cooperative Extension, and other service providers that interface with landowners to develop an outreach plan and resources to help both farming and non-farming landowners understand the importance of proactively planning for the future of their farms and identify options available to them, including permanently protecting their farms and/or working with a land access program like [Farmland for a New Generation New York](#) to find a farm successor.

AFT also respectfully requests FNG-NY be named in the Climate Scoping Plan as a critical strategy to achieve avoided conversion of farmland by assuring uninterrupted land conservation and stewardship, thereby maintaining carbon sequestration gains and emissions reductions achieved on farmland. Increased state support for FNG-NY would position the program to achieve greater impact by strengthening efforts to grow cultural competency within key audiences, particularly landowners, to provide more equitable access to farmland for farmers that face racial discrimination and bias, including farmers of color, women, immigrants, and refugees. It would also help FNG-NY grow Regional Navigator grants to support increased localized staffing devoted to farmland access and transition.

RECOMMENDATION: Pass a statewide Community Preservation Act and empower municipalities to protect more farmland.

AFT encourages the State Legislature to pass Community Preservation Act legislation authorizing all towns to create community preservation funds whose monies can be spent on farmland protection activities. The current system, which requires individual communities to apply to the state Legislature for authorization, is severely limiting farmland protection activity at the municipal level. The Towns of

Warwick and Southold, which applied for authorization, have been able to successfully protect approximately 4,000 and 3,000 acres respectively.²⁵ Providing a blanket authorization would cut down on red tape and enable towns to use home rule authority to more effectively pursue smart growth strategies.

In addition, AFT recommends the State explore the feasibility of providing cost-share for dedicated farmland protection staff at the county and municipal levels to assist with farmland protection planning and to apply for FPIG funds. New York counties and municipalities are eligible to apply for FPIG funds but typically do not because they do not know how to apply for funds and/or have insufficient staff capacity to undertake farmland protection projects. In addition, allowing municipalities and Soil and Water Conservation Districts to transfer easements to non-profit conservation organizations, like a local land trust, would reduce their administrative burden and make farmland protection more feasible for them. Municipalities are a powerful untapped resource that, given the right support, can dramatically accelerate the State's efforts to protect farmland.

Support Regional Least Conflict Planning and Processes (LU8)

New York must support the implementation of smart solar siting strategies at the state, county, and municipal level to help solar development avoid, minimize, and mitigate impacts on prime farmland and agricultural viability. Patterns of solar development are occurring unevenly across New York and some regions, such as the Mohawk Valley, are facing over a gigawatt of proposed solar development.²⁶ As solar development continues to accelerate and grid upgrades are made to support expanded electricity transmission, these patterns will be exacerbated.

AFT recommends NYSDAM, in partnership with NYSERDA, provide municipalities with support for regional least conflict planning processes to proactively identify preferable solar siting locations, including site candidates for the Build Ready program. Solar projects sited in these community-identified least conflict areas should receive accelerated permitting. The California [San Joaquin Valley Least Conflict Solar Project](#) provides one potential model of a successful multi-stakeholder effort to identify least conflict lands for utility scale solar development.

Advance Development and Implementation of Smart Growth Strategies (LU9-12)

Smart growth planning is key to supporting higher density communities and curbing sprawl, which is a major driver of farmland loss and associated with higher carbon emissions than urban development due to associated travel miles.²⁷ Development both releases the carbon stored in agricultural lands back into the atmosphere and destroys or heavily impairs the land's ability to sequester carbon in the future. AFT recommends state, regional, county, and municipal decision-makers engaged in smart growth planning develop and/or incorporate farmland protection plans and farmland areas identified as a priority for protection within smart growth plans. In addition, AFT recommends incentivizing farmland protection

²⁵ Farmland Information Center. "2020 Status of Local Purchase of Agricultural Conservation Easement Programs." Northampton, MA: American Farmland Trust, February 1, 2021.

²⁶ Levy, Samantha, Mikaela Ruiz-Ramón, and Ethan Winter. "Smart Solar Siting on Farmland: Achieving Climate Goals While Strengthening the Future for Farming in New York." Saratoga Springs, NY: American Farmland Trust, February 2, 2022.

²⁷ Freedgood, Julia, Mitch Hunter, Dempsey, and Ann Sorenson. "Farms Under Threat: The State of the States." American Farmland Trust, May 13, 2020.

projects in priority conservation areas identified through smart growth planning. AFT respectfully requests that NYSDAM and non-profit conservation organizations be included in the Scoping Plan as key stakeholders for implementing smart growth strategies.

Adjust Chapter 19 Climate Scoping Plan Language for Consistency

AFT recommends reviewing and revising the language in Chapter 19 of the Scoping Plan to consistently reference farmland alongside forests as a key working land type to include in land use planning and decision making. Suggested edits include:

- Updating “Key Stakeholders” (274) to include entities that hold farmland and provide outreach, education, and other forms of farmland protection and transition assistance to landowners
- Updating the “Protection, Restoration, and Monitoring of Natural and Working Lands” (275) to provide information about levels of private farmland ownership, interest in protecting farmland, and benefits of farmland protection to complement the current information about forests.
- Updating strategies LU1 and LU5 to explicitly reference farmland.

Finally, AFT recommends using the term “non-profit conservation organization” in place of “land trusts,” “conservation NGO,” “conservation non-profits”, and other terms that are used interchangeably throughout Chapter 19 to provide consistency with existing law.

CHAPTER 13 ELECTRICITY

We Must Center Impacted Communities in Decision-Making Processes (E2-E4, E7)

In response to the acceleration of solar development in New York, local communities, farmers, and other stakeholders are raising important questions about how to accommodate this new land use in ways that maximize positive benefits and minimize negative impacts on farmland, the farm economy, food security, and rural livelihoods. Solar siting concerns are closely tied to scale and location of project siting, private property rights, and who wields the power to shape the future of rural, agriculturally defined communities. In some cases, tension over these issues has resulted in delays, opposition, and moratoria on new solar projects. **To reach the state’s climate goals, it is imperative NYSERDA, NYSDAM, ORES, and solar developers prioritize engaging with impacted communities early on and consistently throughout the siting processes to collaboratively identify where and how solar will be sited to maximize community benefits and minimize negative impacts to agriculture.**

AFT recommends NYSERDA and NYSDAM provide funding, resources, and training to support robust, stakeholder-driven local and regional farmland protection planning efforts, and the development and incorporation of renewable energy permitting into new and existing plans and land use laws. Both agencies will need increased funding and staff to help communities plan for agriculture and renewable energy, proactively identify marginal and previously impacted lands suitable for build-ready solar siting, and help local decision makers understand the renewable energy siting process and opportunities for engagement throughout.

In addition, AFT recommends NYSERDA and ORES review existing siting policies and processes, from proposal solicitation through permitting, to incentivize solar developers to actively invite community participation and feedback on siting choices. This review should also include developing and publicizing mechanisms for stakeholder input. The NYSERDA [Agricultural Technical Working Group](#) is one such effective tool, but additional opportunities for stakeholder input are needed. Only by actively centering impacted communities, empowering them to participate in the solar siting process, and listening to their concerns can mounting opposition be constructively addressed. Maintaining a business-as-usual approach to solar siting, particularly for large scale projects, is likely to engender further resistance and ultimately slow the development of clean energy in New York.

New York Needs Smart Solar Siting Strategies to Balance Food and Renewable Energy Production (E2, E3)

Widespread deployment of utility-scale solar, including both distributed generation and large-scale projects, presents opportunities and challenges for farmers and rural communities across New York. Existing patterns of solar development strongly indicate that good quality farmland has been a first-choice site for solar development. Cornell University researchers Katkar et al. analyzed existing solar development in New York built as of 2018, all distributed or small-scale projects, and found that 44% of projects were sited on crop, pasture, or hay land, and 58% of solar projects were built on good quality soil, defined by the study authors as prime farmland or farmland of statewide importance. The researchers also found that, even when excluding these two categories of farmland based on soil

quality, cropland and hay and pastureland still made up the majority (82-85%) of the land suitable to host solar to get us to 2030 goals.²⁸

The amount of new generation from solar will need to grow dramatically over the next two decades to meet New York's CLCPA goals, with large-scale solar installations permitted through ORES expected to play a key role. Projections of how many gigawatts of solar, and therefore how many acres of land, are required to meet the state's climate goals vary widely, and the actual number remains unknown without a clear understanding of how much on- or off-shore wind will be developed. Higher future clean energy goals, increased electrification, and improved storage and efficiency will likely increase the amount of renewable energy New York needs to generate. The stated Scoping Plan goals of 60 gigawatts installed solar capacity by 2050 and could require at least 330,000 acres of New York farmland.²⁹ **If all this development occurs on farmland, New York could lose more farmland acres to just solar development in the next 15 years as was lost to all residential, commercial, and other land uses between 2001-2016.**

Expanding renewable energy production is key to addressing climate change but keeping land in farming remains necessary to grow the food, fiber, and fuel we need to survive and maintain emissions reductions and sequestered carbon into the future. This is particularly true in a state with plentiful land and water resources. While not all of New York's 9 million acres of farmland is suitable for solar, there is still sufficient land to make strategic choices about where and how solar is sited so that it supports farmers and farm viability and protects the land that sustains us. With the right planning, project design, and farmer and community engagement, utility-scale solar can be developed in ways that avoid, minimize, or mitigate significant impacts to active farmland and agricultural communities.

[RECOMMENDATION: Incorporate smart solar siting principles to balance competing solar and farmland land use needs.](#)

The goal of smart solar siting is to maximize renewable energy generation while supporting farm viability and protecting our most productive farmland by:

- Promoting siting solar panels on lands that will support farm viability and avoid high quality farmland
- Embracing agrivoltaics (with rigorous, well-defined standards), where solar energy production and farming occur simultaneously on the same piece of land
- Ensuring oversight for projects that will impact farmland, farms, and the farm economy to implement best practices in construction, operation, decommissioning, and regenerative soil management

AFT's [Smart Solar Siting Report](#) includes a proposal for a smart solar siting mitigation framework developed based on input from farmers, local government officials, solar developers, land trusts, environmental organizations, soils experts, and many others through surveys and roundtables. This smart solar siting framework is comprised of three parts:

²⁸ Katkar, Venkatesh, Jeffrey Sward, Alex Worsely, and Max Zhang. "Strategic Land Use Analysis for Solar Energy Development in New York." *Renewable Energy*, no. 173 (April 2021): 861–75. <https://doi.org/10.1016/j.renene.2021.03.128>.

²⁹ Uses 5.5 acres/MWdc estimate

Part 1: Classifying proposed solar projects based on impacted MSG 1-4 soils to determine mitigation costs, which are tied to the cost of farmland protection in that region.

Part 2: Calculating discounts that can be applied to the total mitigation cost based on the degree to which the project supports farm viability or incorporates agrivoltaics.

Part 3: Confirming implementation and verifying the performance of mitigation activities throughout the life of the project.

Regardless of project size, developers should be required to follow the NYSDAM Construction and Mitigation Guidelines, which outline how solar projects should be constructed and decommissioned to protect farmland. Verification and monitoring requirements currently put in place, such as hiring an environmental monitor, must be strictly followed to ensure guidelines are fully implemented.

RECOMMENDATION: Support funding for applied research and pilot projects to contribute to a robust body of agrivoltaic research and practices in the long term.

Agrivoltaics, or agricultural dual-use solar, refers to a solar installation that integrates solar arrays and ongoing agricultural production on the same parcel of farmland. Agrivoltaic solar installations maintain, rather than displace, farming activity by making agricultural production an integral part of the project design and operation. Project design and plans for construction and decommissioning are created with a farmer or other expert in a manner that retains or enhances the land’s agricultural productivity and viability during and after the life of the project. Agrivoltaic projects should maintain farming activities similar to what was previously possible given the quality of the land and the infrastructure (e.g., support businesses, processing capacity, markets) that already exist in the community. When these conditions are met, agrivoltaic projects can be a win-win, with farmers maintaining agricultural production and gaining additional supplemental income from lease payments while also ensuring disinvestment in farming does not occur in the community as a result of the solar project.

Agrivoltaics is a new and growing field with significant interest from state and federal government, farmers, and leaders in the solar industry. New York has the opportunity to establish itself as a national leader by supporting research, developing a stakeholder-informed definition that clearly establishes what does and does not count as dual-use, and creating financial incentives. The potential of agrivoltaics to minimize conflict between food and energy production is promising but conditional on continued research, field testing and, ultimately, proof of concept. A Cornell study completed in 2021, for example, determined that grazing sheep on utility scale solar sites can be a cost-effective method to control on-site vegetation and provides financial benefits to sheep farmers interested in accessing such facilities.³⁰ As this was limited to grazing, further studies now need to be undertaken for different crop and livestock operations in different climates. As more agrivoltaic installations are developed, more research will be needed to:

- Evaluate performance of solar panels compared to non-agrivoltaic systems;
- Identify the types of crops and cropping systems that can grow profitably in different climates;
- Assess the impact of agrivoltaic projects on soil health and growing conditions; and

³⁰ Kochendoerfer, Nikola, and Michael L Thonney. “Grazing Sheep on Solar Sites in New York State: Opportunities and Challenges.” Ithaca, NY: Cornell University, February 2021.

- Advance understanding of the risks, economics, and potential social impacts of agrivoltaic systems.

Research underway now and in next several years should inform policy, market incentives and industry best practices around agrivoltaics.

RECOMMENDATION: Establish an agrivoltaics adder or other financial incentive to drive industry interest and innovation in the design, construction, and operation of agrivoltaic projects across the state.

AFT encourages NYSDAM and NYSERDA to proactively learn from other states and countries such as Japan, France, and Germany where agrivoltaics are becoming institutionalized. The US Department of Energy believes that the technical potential for agrivoltaics in the U.S. is quite large. At least eight states have endorsed pollinator-friendly solar scorecards in state law. New Jersey is developing a 200 MW [pilot program for dual use](#) that will enable agrivoltaics projects of up to 10 MWdc on prime farmland in county designated agricultural areas. These projects will need to meet rigorous design and crop yield standards and will be eligible to receive an incentive to reduce impacts to project cost. With input from AFT and other stakeholders, legislators in Maine are also considering a dual use pilot program. In Massachusetts, the [MA SMART program](#) has developed the Agricultural Solar Tariff Generation Unit incentive for dual use. However, one of the lessons to be learned from dual use in Massachusetts is that overly restrictive standards and qualification processes will greatly reduce solar sector and landowner interest. New York can also apply insights from federal research that is underway. In 2022, the Department of Energy's Solar Energy Technologies Office released two federal funding opportunities totaling \$20 million to research and advance wildlife and ecosystem services benefits ([SolIWEB](#)) and agrivoltaics ([FARMS](#)).

New York has the potential to be a national and global leader in agrivoltaic innovation by instituting robust guidelines and incentives for agricultural dual use through the VDER structure for community distributed generation (NY-Sun); for qualifying farmland sites through NYSERDA's Build Ready Program; and through implementation of the Smart Solar Siting Scorecard in the annual Large Scale Renewables solicitation process. AFT recommends NYSDAM lead a stakeholder-driven process in coordination with NYSERDA to solicit market input on the design, financing and operations of projects that would meet qualifications for an agrivoltaic adder and define clear and robust farm-centered standards for agrivoltaic projects to qualify for a financial incentive.

In order to support both rigor and innovation, AFT suggests a graduated incentive that increases based on the level of innovation and added cost required to support solar projects specifically designed for agricultural production. For example, incentives for sheep grazing, assuming this is undertaken with minimal additional investments or project modification, should require grazing plan, soil health monitoring and amenities to support grazing (water access, fencing). As such, a solar grazing incentive would be lower than for more intensive project modifications designed to allow for cattle grazing or specialty food crop production. Meanwhile, projects designed for fruit and vegetable production are likely to require specialized array designs with potentially greater capital cost than conventional systems. AFT emphasizes that an agrivoltaic incentive program should be designed with input from farmers and place farm viability and soil health at the center of project siting, design, and qualifications

for an agrivoltaic adder(s). In short, agricultural and energy productivity considerations should be complementary.

RECOMMENDATION: Monitor and minimize impacts to farmer-renters from solar development.

Access to land is critical for any farm operation, and for new, beginning, and farmers of color who often cannot afford to buy land outright, the availability of suitable farmland to rent makes the impact solar will have on the availability and affordability of rented lands an important equity issue for the state. Farmer-renters are at a disadvantage because they typically have little say in the fate of the land they rely on for their business to survive and are easily outcompeted by solar developers, who pay multiple times (sometimes as high as 10x) over the cost farmers can afford to pay per acre. While this income may be a boon for landowners, it often means that farmers who are renting land under consideration for a solar lease are displaced and must find alternate lands farther afield. This can increase business operating costs and make thin profit margins even thinner, or force farmers to adjust their farm business to remain profitable while farming fewer acres. Sixty-one percent of farmer-survey respondents in AFT’s research reported renting farmland, of which over half reported one or more negative impacts to farmland rentals due to solar development: nearly three quarters reported increased land scarcity, 68% reported land was costlier to rent, and 36% said they lost land they used to rent.³¹

Loss of rented land can be devastating to a farm business, and so efforts to ensure farmer-renters are not unduly impacted as the state builds out solar development are vital. AFT recommends NYSDAM begin collecting data on the impacts of solar development on farmer renters and for NYSDAM, NYSERDA, and ORES to develop mechanisms to help farmer-renters identify alternate land, keep their businesses viable despite the loss of land, or other measures to help them recover from the negative financial impacts to their businesses.

RECOMMENDATION: Invest in research to establish decommissioning best practices and support community planning for decommissioning of solar projects.

Many farmers and communities have raised concerns about the long-term impacts of solar siting on soil quality, food production capacity, and the ability of farmers to adapt to changing climate and economic realities. These important questions about what happens to farmland after the life of the solar project remain unanswered because no solar projects have been in operation long enough to find out. AFT recommends NYSERDA and NYSDAM invest in research to expand knowledge of the best practices for solar array construction, operation, and decommissioning to support soil health and ensure the ability of the land to be farmed after the life of the project. In addition, developers should be required to fully cover the costs of remediating soils to re-establish the baseline levels of organic matter, compaction, and other soil health determinants.

³¹ Levy, Samantha, Mikaela Ruiz-Ramon, and Ethan Winter. “Smart Solar Siting on Farmland: Achieving Climate Goals While Strengthening the Future for Farming in New York.” Saratoga Springs, NY: American Farmland Trust, February 2, 2022.

Accelerate Growth of Large-Scale Renewable Energy Generation While Avoiding, Minimizing, and Mitigating Agricultural Impacts (E2)

RECOMMENDATION: Implement robust mitigation requirements that reflect regional costs of farmland protection.

The existing mitigation fee regime, which averages approximately \$1,000 per acre of impacted MSG 1-4 soil, is insufficient to mitigate the impacts of solar development on prime agricultural lands. AFT instead recommends calculating fees to reflect the average full per-acre cost of protecting farmland in that REDC region. State farmland protection award amounts should be adjusted to reflect inflation and the full cost of the farmland protection project, including soft costs and stewardship costs, before the average is taken. In addition, fees should be structured to strongly disincentivize siting solar projects on large percentages of prime farmland. If reconfiguring the project to minimize impact is not possible, higher fees would provide extra funds for investing in supporting agricultural viability, as communities that suffer large farmland losses face greater challenges to the viability of their farm economy. Projects with smaller percentages sited on prime farmland pay smaller mitigation fees. For more detail on the proposed calculation method and mitigation framework, please see [AFT's Smart Solar Siting report](#).

RECOMMENDATION: Ensure rigorous application of the NYSERDA Smart Solar Scorecard framework and develop enforcement mechanisms to ensure solar project commitments made during the competitive solicitation process are upheld during subsequent permitting, construction, and operation of awarded solar projects.

AFT is pleased to actively serve on the NYSERDA Agricultural Technical Working Group and has provided extensive input throughout development of the revised NYSERDA Smart Solar Scorecard, to be utilized in the annual NYSERDA large scale renewable procurement process. Given the current pace of large-scale renewable energy development in New York, it is important to operationalize the revised Smart Solar Scorecard as soon as possible. The Smart Solar Scorecard provides solar developers, landowners and local jurisdictions with a framework to plan and design projects to avoid, minimize, and mitigate impacts to prime agricultural land from the onset. In addition, NYSERDA and ORES must coordinate to develop rigorous tracking mechanisms to ensure that commitments made by solar developers during the proposal solicitation process (and applied to the Smart Solar Scorecard) are carried through the ORES permitting phase and into construction and project operations stages. Without an enforcement mechanism to ensure compliance, the Smart Solar Scorecard will have limited impact on how solar projects are ultimately sited and operated.

Facilitate Siting of Distributed Generation on Marginal and Underutilized Lands (E3)

Stakeholders surveyed by AFT expressed a clear preference for siting on rooftops, parking lots, landfills, brownfields, and marginal lands *before* siting on productive farmland.³² While farmland is and will remain a top siting choice for solar developers, particularly for large scale solar projects, efforts to site distributed generation projects on these preferred siting areas can and should be accelerated as New York works to reach its 10 GW distributed generation goal.

³² Ibid.

NYSERDA's Build Ready program could be ramped up to advance development in these preferred areas, particularly if they are more expensive to develop. While parcels big enough to accommodate large scale projects are difficult to secure, many sites reviewed by the Build Ready program could be viable for distributed generation projects. NYSERDA should explore the feasibility of expanding or shifting the Build Ready program to examine prospective sites through a distributed generation lens. A farmer-led aspect to the Build Ready Program, where farmers rather than developers identify the land on which they are interested in hosting solar, could also be explored. Another program innovation would be to reduce barriers by allowing active and more productive farmland to be considered for Build Ready Program on the condition that such projects meet rigorous qualification standards for agricultural co-utilization or agrivoltaics.

Conclusion

AFT was proud to serve on the Agriculture and Forestry advisory panel and appreciates the opportunity to provide verbal and written comments on the draft Climate Scoping Plan. We look forward to serving as a resource to state agencies on these issues and continuing to work with NYSDAM to help farmers be leaders in addressing climate change in New York.