Chapter 19. Land Use

19.1 Overview

The way we use land, whether for development, conservation, or a mix of uses, directly affects the State's carbon emissions, sequestration, and storage. Smart growth land use patterns reduce transportation-based greenhouse gas (GHG) emissions by reducing automobile use and enhancing accessibility and effectiveness of public transit and pedestrian traffic, thus reducing vehicle miles traveled (VMT); sustainable land use planning and zoning can facilitate optimal siting of renewable energy; and protection of forests, cropland, and wetlands is critical for natural carbon sequestration and improves the resilience of communities. Decisions about where to conserve land, where to develop, and how to arrange and design that development constitute the critical first steps in addressing climate change in land use. These decisions directly impact the ability to achieve carbon mitigation, sequestration, and adaptation and resilience goals.

The dense and targeted development patterns that result from implementation of smart growth land use principles can support land conservation strategies that are critical to climate change mitigation. Smart growth and local government planning are important enabling actions that are needed to balance the protection and restoration of natural and working lands, development, and clean energy siting. Strategic open space conservation can help contain sprawl, direct development into more appropriate areas, and maintain large, vegetated natural lands that contribute to carbon sequestration and storage, while providing an array of additional benefits including wildlife habitat, agricultural production, flood protection, clean water, wood products, and recreation.

Land use and land management decisions that seek to maximize carbon sequestration in our natural and working lands is a key component to realizing the Climate Act goal of net zero emission across all sectors of the economy. Not only are natural and working lands critical for ongoing and enhanced carbon sequestration, avoiding conversion of such lands eliminates the prospect of additional GHG emissions release.

New York State envisions a significant shift to infill development and redevelopment of existing buildings in municipal centers with existing infrastructure to proliferate compact, mixed-use, mixed-income development, which will attract future population growth, support Disadvantaged Communities, and accelerate transit-oriented development (TOD). This development pattern would create new opportunities for open space conservation and be fully aligned with the State's transportation and

other infrastructure investments, resulting in far less automobile use and dependence and a concomitant reduction in GHG emissions from vehicles.

While land-use decision-making falls largely within the jurisdictions of municipalities (cities, towns, villages), State policies, programs, and incentives can influence and inform those local decisions to achieve more sustainable, climate-friendly land use outcomes.

To ensure zero-emissions electricity while increasing sequestration to reach net zero by 2050, local governments will be challenged with balancing these different types of land use. Smart growth and local clean energy siting assistance, paired with other land use strategies to protect natural and working lands will be necessary immediately and in the long term to help communities meet local needs while balancing land use priorities and pressures.

Existing Strategies

There are more than 28 million acres of natural and working lands in New York.[306,307,308] Smart growth and local planning and decision-making are needed to inventory and maintain existing wetlands, high-value conservation areas, and agricultural production for GHG emissions mitigation, resilience, and adaptation benefits while balancing the increased demand for areas devoted to renewable energy production, forest land, and development.

New York has worked for decades on climate action. In addition to the aforementioned actions, there are several existing strategies that protect natural and working lands and promote smart growth. The State recently enacted legislation (Chapter 58 of the Laws of 2022) to improve and expand regulation of all freshwater, non-tidal wetlands, and adjacent areas by fundamentally changing New York's statutory system for regulating these wetlands. The statutory changes include shifting wetland maps from regulatory to informational and decreasing the default acreage threshold from 12.4 acres to 7.4 acres.

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[306] Albright, Thomas A., Brett J. Butler, Susan J. Crocker, Jason M. Drobnack, Cassandra M. Kurtz, William H. McWilliams, Randall S. Morin, Mark D. Nelson, Rachel Riemann, Lance A. Vickers, Brian F Walters, James A. Westfall, Christopher W. Woodall. 2020. "New York Forests 2017." *Resource Bulletin NRS-121.* Madison, WI: U.S. Department of Agriculture, Forest Service, Northern Research Station. 118 p. https://doi.org/10.2737/NRS-RB-121.

[307] U.S. Department of Agriculture. National Agriculture Statistic Service. 2019. "2017 Census of Agriculture, Volume 1, Chapter 1: Part 32 State Level Data: New York." Accessed at https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_State_Level/New_York/nyv1.pdf.

[308] Huffman & Associates, Inc. August 1999, Finalized June 2000. *Wetlands Status and Trend Analysis of New York State - Mid-1980's to Mid-1990's.* Prepared for New York State Department of Environmental Conservation. Larkspur, California. l7pp. plus attachments. Accessed at https://www.dec.ny.gov/docs/wildlife_pdf/wetstattrend2.pdf.

Implementation of these changes require updating State regulations, developing internal and external guidance, and greater administration and enforcement. Over 75,000 acres of farmland has been protected from development through the Farmland Protection Implementation Grant Program and tens of thousands of additional acres of forestland have been protected from conversion through land purchases and easements with funds from the Environmental Protection Fund (EPF). In New York, there are more than three million acres of Forest Preserve, 900,000 acres of working forest conservation easements, 800,000 acres of state forest reforestation areas, 124,000 acres of wildlife management areas, and nearly one million acres of forest in local and federal ownership. Programs like Regenerate NY, Agricultural Nonpoint Source Abatement and Control (AgNPS), the Hudson River Estuary Program, and annual spring seedling sales by both the New York State Department of Environmental Conservation (DEC) Colonel William F. Fox Memorial Saratoga Tree Nursery and statewide Soil and Water Conservation Districts (SWCDs) assist landowners with tree planting efforts and have resulted in the planting of tens of thousands of trees. The Downtown Revitalization Initiative promotes compact, mixed-use development that is energy-efficient, focuses development in downtown areas, and promotes the use of public transit and reduced dependence on personal vehicles. Since 2016, 59 communities have completed the Downtown Revitalization Initiative planning process. The Brownfield Cleanup, Environmental Restoration, and Brownfield Opportunity Area (BOA) programs offer incentives, planning and technical assistance, tax credits, and liability relief for brownfield cleanup and redevelopment. New York State Department of State (DOS) promotes smart growth through the Local Waterfront Revitalization Program, the Smart Growth Comprehensive Planning Grant Program, and the Countywide Resiliency/Smart Growth Planning Grants Program. DEC offers the Adirondack and Catskill Smart Growth Grants Program and the Climate Smart Communities Program.

Key Stakeholders

Stakeholders that promulgate and enforce land use regulations include municipalities at every level, including cities, towns, villages, counties, and special districts. Stakeholders that guide land use policy and investment include municipal planning organizations (MPOs), county planning boards, regional planning councils, Regional Economic Development Councils (REDCs), industrial development agencies and authorities, and local and regional authorities, such as the Adirondack Park Agency. Stakeholders that hold forest land in New York include DEC, New York State Department of Agriculture and Markets (AGM), New York State Office of Parks, Recreation, and Historic Preservation (OPRHP), New York State Department of Transportation (DOT), New York Power Authority (NYPA), land trusts, utility companies, municipalities, municipal associations, local communities, and private landowners. Stakeholders involved in outreach, education, and other forms of landowner assistance include U.S.

Department of Agriculture (USDA), DOS, DEC, the New York City Department of Environmental Protection, SWCDs, Cornell Cooperative Extension (CCE), the Society of American Foresters, International Society of Arboriculture, New York Society of Arboriculture, New York State Urban Forestry Council, New York Forest Owners Association, education and conservation nonprofits and nongovernmental organization (NGOs), hunting stakeholders, arborists, foresters, and unions. Stakeholders involved in research efforts include State University of New York (SUNY) College of Environmental Science and Forestry (ESF) and Cornell College of Agriculture and Life Sciences (CALS). Other stakeholders involved in developing and administering incentive programs and legislation include the New York State Department of Taxation and Finance and the Legislature.

19.2 Key Strategies

The key strategies for reducing GHG emissions and increasing carbon sequestration and storage through land use practices are described below and organized into three themes, as shown in Table 19.

Table 19. Land Use Key Strategies by Theme

Theme	Strategies
Protect, Restore, and Monitor Natural and Working Lands	LU1. Mitigate Carbon Emissions by Protection of Forest Lands LU2. Afforestation and Reforestation LU3. Avoid Agricultural and Forested Land Conversion LU4. Protect and Restore Wetlands LU5. Mapping, Research, Planning, and Assistance
Consider Forests and Farmland in Land Use Policies	LU6. Provide Guidance and Support for Afforestation and Reforestation LU7. Increase Forest and Farmland Protection in Municipal Comprehensive Plans LU8. Provide Guidance and Support on Clean Energy Siting
Promote Smart Growth	LU9. Regional and County Planning and Technical Assistance LU10. Direct Planning, Zoning, and Pre-Development Assistance to Municipalities LU11. Align State Funding Priorities LU12. Accelerate Transit-Oriented Development

Protect, Restore, and Monitor of Natural and Working Lands

Over 13.7 million acres, or 73%, of New York's forests are owned by private landowners.[309] When surveyed, private landowners owning 91.7% of these forested acres stated that they want to keep their

[309] U.S. Department of Agriculture. Forest Service. 2020. "Forests of New York, 2019." *Resource Update FS-250*. Madison, WI: U.S. Department of Agriculture, Forest Service. 2p. https://doi.org/10.2737/FS-RU-250.

forests as forests.[310] However, natural and working lands in many parts of the State are under pressure from development and conversion, which is causing a steady decline in the amount of carbon dioxide (CO_2) being absorbed each year.[311]

Afforestation and reforestation have the potential to greatly increase the carbon sequestration and storage capacity in New York State. In New York, there are 3.9 million acres that have the potential for reforestation and afforestation, including 1.6 million acres of marginal cropland and pastureland and 27,000 acres of natural lands, which would help mitigate 13.1 million metric tons (MMT) of CO_2 per year, with the greatest mitigation potential for pasturelands (9.9 MMT CO_2 per year), urban areas (1.7 MMT CO_2 per year), and biological corridors (1.49 MMT CO_2 per year).[312] However, there may be competing uses for these lands, such as agriculture, renewable energy project siting, and development that will likely make much of this land unavailable for afforestation and reforestation efforts. Identification of areas for reforestation and afforestation is a first step to increasing forest area, as well as carbon sequestration and storage.

LU1. Mitigate Carbon Emissions by Protection of Forest Lands

New York has 18.6 million acres of forests,[313] which hold an estimated 1,911 MMT of carbon.[314] In addition to carbon sequestration and storage, New York's forests provide wildlife habitat, forest products, flood mitigation, recreational opportunities, and mental health benefits, and protect the State's air and water quality. Forestlands in many parts of the State are under pressure from development and forest conversion, which is causing a steady decline in the amount of CO_2 being absorbed each year. Keeping

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[310] Butler, Brett J., Jaketon H. Hewes, Brenton J. Dickinson, Kyle Andrejczyk, Sarah M. Butler, Marla Markowski-Lindsay. 2016. "U.S. Department of Agriculture Forest Service National Woodland Owner Survey: national, regional, and state statistics for family forest and woodland ownerships with 10+ acres, 2011-2013." *Res. Bull. NRS-99*. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 39 p. https://doi.org/10.2737/NRS-RB-99.

[311] Domke, Grant M., Brian F. Walters, David J. Nowak, James E. Smith, Stephen M. Ogle, J.W. Coulston, T.C. Wirth. 2020. "Greenhouse gas emissions and removals from forest land, woodlands, and urban trees in the United States, 1990-2018." *Resource Update FS-227.* Madison, WI: U.S. Department of Agriculture, Forest Service, Northern Research Station. 5 p. https://doi.org/10.2737/FS-RU-227.

[312] Cook-Patton, S.C., T. Gopalakrishna, A. Daigneaul, S.M. Leavitt, J. Platt, S.M. Scull, O. Amarjargal, P.W. Ellis, B.W. Griscom, J.L. McGuire, S.M. Yeo, and J.E. Fargione. "Lower cost and more feasible options to restore forest cover in the contiguous United States for climate mitigation." *One Earth* V 3(6): 739-752. https://doi.org/10.1016/j.oneear.2020.11.013. Accessed December 2021 at https://www.reforestationhub.org/. Acreage values were based on Cook-Patton et al. (2020) estimates, which are being further updated at https://www.reforestationhub.org.

[313] U.S. Department of Agriculture. Forest Service. 2020. "Forests of New York, 2019." *Resource Update FS-250*. Madison, WI: U.S. Department of Agriculture, Forest Service. 2p. https://doi.org/10.2737/FS-RU-250.

[314] Domke, Grant M., Brian F. Walters, David J. Nowak, James E. Smith, Stephen M. Ogle, J.W. Coulston, T.C. Wirth. 2020. "Greenhouse gas emissions and removals from forest land, woodlands, and urban trees in the United States, 1990-2018." *Resource Update FS-227.* Madison, WI: U.S. Department of Agriculture, Forest Service, Northern Research Station. 5 p. https://doi.org/10.2737/FS-RU-227.

forests as forests is critical to maintaining and increasing levels of carbon sequestration and storage and preventing emissions, as forests sequester and store much more carbon than any other land use in New York. State and municipal land acquisition provide the most reliable long-term protection of forested areas from land conversion. There are currently 4.8 million acres of forestland owned by the State, local municipalities, or land trusts in New York. In 2020, 6,005 acres of land were protected through acquisition by DEC and OPRHP and 14 grants were awarded to protect forests through the Conservation Partnership Program. To maintain the State's carbon storage and sequestration levels, additional protection is needed, which can be accomplished through land acquisition and conservation easements.

The State should implement the following tactics that keep forests as forests and maintain New York's forest carbon sequestration and storage levels and prevent emissions from development. Many of the strategies and components listed below will take several years to implement and receive carbon benefits, so actions to keep forests as forests should begin as soon as possible to prevent emissions and slip back of current carbon sequestration in New York forests. Comments from the Climate Justice Working Group (CJWG) were supportive overall of the strategies listed below for mitigating carbon emissions by the protection of forest lands.

Components of the Strategy

- **Enact "Keep Forests as Forests" law:** The State should immediately enact legislation to "keep forest as forests," requiring developers to purchase and set aside forested land when forest carbon is lost during development following the principles of avoid, minimize, and mitigate.
- **Establish programs to support local land acquisition:** DEC should considerably enhance support for local land acquisition and conservation easements by municipalities and land trusts through mechanisms such as the Community Preservation Act, Conservation Partnership Program, Forest Conservation Easements for Land Trusts, and Community Forest programs.
- **Maintain and increase State land acquisition:** DEC should continue to maintain and significantly increase land acquisition (fee and conservation easement) funding by State agencies, municipalities, and land trusts.
- **Increase collaborative efforts for statewide forest acquisition:** Statewide agencies and organizations, land trusts, programs, and local municipalities should collaboratively aim to expand upon historical land acquisition rates to acquire at least 500,000 forested acres by 2050, prioritizing forests with the highest quality carbon, climate, and other conservation benefits. Acquisition of 500,000 acres of forestlands could result in 26 MMT carbon dioxide equivalent

(CO_2e) of avoided emissions by 2050 (not counting foregone sequestration) from avoided conversion.

LU2. Afforestation and Reforestation

Following European settlement in the 1600s, New York's forest cover began to drop. This trend increased rapidly during the Industrial Revolution, and by the 1880s, less than 20% of New York was forested. With the recognition that New York must restore its forested resources, DEC's precursor, the New York State Conservation Department, began widespread planting efforts in the early 1900s. Planting efforts continued with the Civilian Conservation Corps in the 1930s and following World War II. New York is now 63% forested, but opportunities remain for additional afforestation and reforestation efforts to improve carbon sequestration, carbon storage, and all the other benefits that forests provide,[315] especially on New York's 1.6 million acres of marginal lands and areas otherwise lacking sufficient natural regeneration. Figure 31 shows forest land cover over time. The strategies within this theme propose an increase in tree planting and efforts to encourage natural regeneration of trees, which will increase carbon sequestration and storage. Seedlings take up to five years to become established after planting or natural regeneration, at which time they begin to grow more rapidly and have a greater impact on carbon sequestration.

The New York State tree nursery system was founded in 1902 to reforest areas of the State that were subject to erosion, flooding, and sedimentation. Numerous tree nurseries were established across the State to grow seedlings for afforestation and reforestation efforts. By 1973, all State nurseries were consolidated to the Colonel William F. Fox Memorial Saratoga Tree Nursery, which produces 1.2 million bareroot and plug seedlings annually, of which only 200,000 are used for planting on State forests.[316] If only marginal lands are considered for afforestation and reforestation, 872 million trees will be needed over the next 30 years (more than 29 million/year).[317] However, if all potential locations are considered, a total of 2.2 billion seedlings will be needed (73 million/year).[318] A large expansion in the workforce is

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[315] Verschoor, K., and G. Van Duyne. *Tree Planters' Notes* 55(2):4-13. 2012. Accessed at https://rngr.net/publications/tpn/55-2/forestry-and-tree-planting-in-new-york-state/at_download/file.

[316] Ibid.

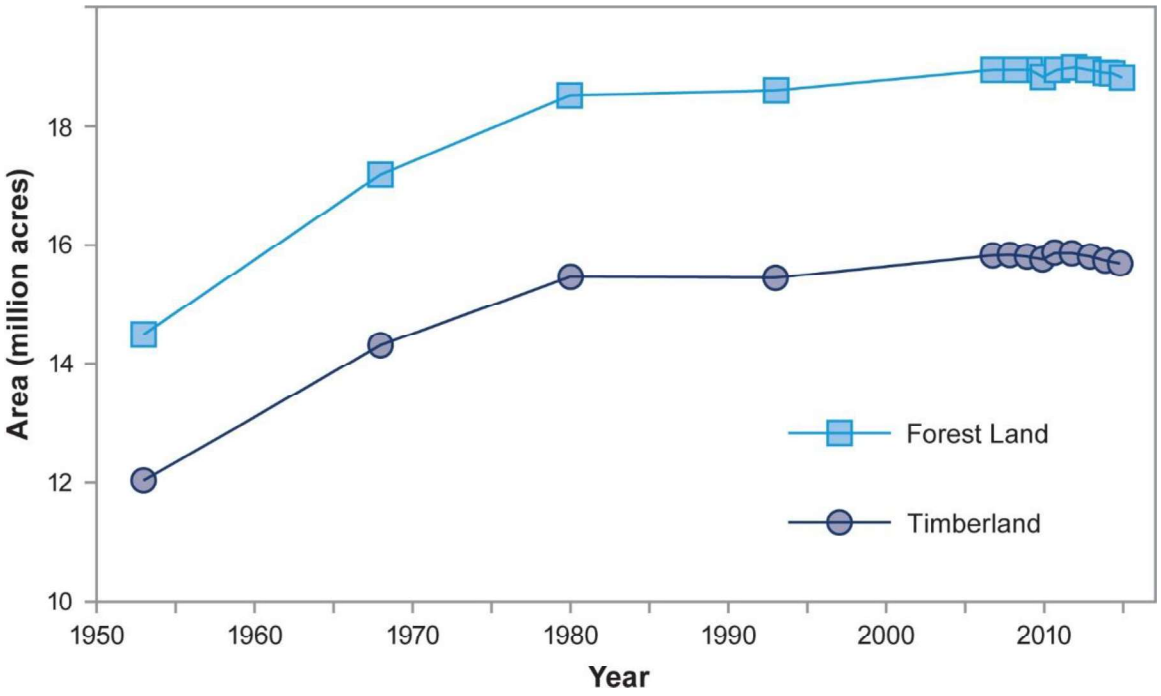
[317] Fargione J., D.L. Haase, O.T. Burney, O.A. Kildisheva, G. Edge, S.C. Cook-Patton, T. Chapman, A. Rempel, M.D. Hurteau, K.T. Davis, S. Dobrowski, S. Enebak, R. De LaTorre, A.A.R. Bhuta, F. Cubbage, B. Kittler, D. Zhang, R.W. and Guldin. 2021. "Challenges to the Reforestation Pipeline in the United States." *Front. For. Glob. Change* 4:629198. https://doi.org/10.3389/ffgc.2021.629198.

[318] Cook-Patton, S.C., T. Gopalakrishna, A. Daigneaul, S.M. Leavitt, J. Platt, S.M. Scull, O. Amarjargal, P.W. Ellis, B.W. Griscom, J.L. McGuire, S.M. Yeo, and J.E. Fargione. "Lower cost and more feasible options to restore forest cover in the contiguous United States for climate mitigation." *One Earth* V 3(6): 739-752. https://doi.org/10.1016/j.oneear.2020.11.013.

needed to support afforestation and reforestation efforts to plant seedlings and implement regeneration practices. Afforestation and reforestation practices in New York could support $176 million in total annual wages with 5,596 full-time equivalents in new jobs by 2035, mainly in rural areas of the state.[319]

In order to ensure that reforestation and afforestation are effective GHG emissions mitigation strategies by 2030 and 2050, these efforts need to be started as soon as possible to allow time for seedling establishment. The CJWG feedback was supportive overall of the strategies listed below for the Afforestation and Reforestation strategy.

Figure 31. New York Forest Land Cover Over Time



Source: Figure showing forest land (at least 10% tree canopy cover) and timberland (forestland capable of producing wood crop) by year, New York, 1953 to 2016 (Albright et al. 2020).

Components of the Strategy

Develop a Statewide Reforestation and Afforestation Plan: DEC should work with other agencies and partners to develop a plan that sets ambitious and collaborative goals that span across agencies and organizations, programs, local municipalities, nurseries and landscaping companies, and landowners for reforestation and afforestation by 2030, 2040, and 2050. State

[319] Woollacott, J., K. Franze, C. Wade, N. Taylor, and K. Austin. 2022. *Economic Impacts of Investing in Climate Mitigation in New York State Forests and Agriculture.*

agencies, authorities, partners, and organizations should broadly encourage and support statewide tree planting, tree regeneration, and tree maintenance programs to establish and maintain 1.7 million acres (approximately 680 million trees) by 2040.This would result in more than 4.9 MMT CO_2e of additional annual sequestration by 2050.[320] A statewide reforestation and afforestation plan would help increase market coordination with nurseries, seed collectors, and a planting workforce to synchronize implementation needs.

- **Prioritize locations for afforestation and reforestation:** DEC should identify areas where afforestation and reforestation are the most likely to succeed using data provided by the Reforestation Hub,[321] experts, and other authorities. Of the potential land available, factors that may impact afforestation and reforestation success include the soil and site conditions, the level of deer browse, the presence of invasive species or other competing vegetation, and limitations on lands with other important uses such as rights-of-way and utility corridors.
- **Reforest rights-of-way:** DOT should work with public and private partners on reforestation efforts in right-of-way areas of the State. These partnerships should determine and focus on tree and shrub species compatible with power transmission and distribution rights of way, roadside areas, pipelines, railroads, and other right-of-way areas and develop programs for afforestation and reforestation in these locations. Public outreach for right tree, right place is needed.
- **Invest in and update the Colonel William F. Fox Memorial Saratoga Tree Nursery:** The State should provide funding to increase the State tree nursery's staff and infrastructure capacity to support large-scale afforestation and reforestation efforts, including expanding tree species offerings to meet adaptation and resiliency challenges and implementing upgrades to enhance seed collection, seed storage, seedling production, workforce development, and pre- and post-planting practices.
- **Increase and accelerate seed collection:** DEC should create a program to increase statewide tree seed collection across the state. This program should establish a network of seed collectors and an efficient method to deliver seeds to the Colonel William F. Fox Memorial Saratoga Tree Nursery for processing, storage, and use.

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[320] Wightman, J.L., and P.B. Woodbury. 2020. *New York Agriculture and Climate Change: Key Opportunities for Mitigation, Resilience, and Adaptation.* Final Report on Carbon Farming project for the New York State Department of Agriculture and Markets. https://cpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/2/7553/files/2020/07/CarbonFarming_NYSAGM_FINAL_May2020.pdf

[321] Cook-Patton, S.C., T. Gopalakrishna, A. Daigneaul, S.M. Leavitt, J. Platt, S.M. Scull, O. Amarjargal, P.W. Ellis, B.W. Griscom, J.L. McGuire, S.M. Yeo, and J.E. Fargione. "Lower cost and more feasible options to restore forest cover in the contiguous United States for climate mitigation." *One Earth* V 3(6): 739-752. https://doi.org/10.1016/j.oneear.2020.11.013.

- **Increase grant program funding:** The State should increase funding for the Urban and Community Forestry Grants to assist local municipalities in the management of the urban forest which can reduce risks associated with extreme heat, drought, and flooding. This would include funding for planning, planting, and maintenance of trees. The State should also increase funding opportunities such as Regenerate NY or the ReLeaf program's Community Canopy program for private individuals to establish and maintain privately owned trees. This component aligns with adaptation and resilience strategies discussed further in *Chapter 21. Adaptation and Resilience* and Appendix H.
- **Prioritize locations for urban forest tree planting:** Urban and community forest cover is declining by about 6,720 acres annually.[322] As urban and community forest cover decreases, so do the critical benefits that these trees provide, such as carbon sequestration, reduced heating and cooling costs, reduced heat island effects, air and water quality improvement, and flood mitigation. In addition to the Urban and Community Forestry program, DEC should develop an opportunity assessment to focus tree establishment and maintenance efforts within urban areas and communities where the most climate, societal, and public health benefits are likely to be achieved.
- **Provide guidance and support:** DEC should work with partners to develop guidance and provide support and funding to local communities for planning and implementing planting and maintenance projects that help communities adapt to climate change. This may include sharing resources (like equipment, staff, and bulk ordering). This will help communities maintain critical ecosystem services like flood mitigation, clean air, clean water, reduced sediment and nutrient runoff, reduced energy use, shade, reduce risks associated with extreme heat, and improve human health. This component aligns with adaptation and resilience strategies discussed in further in *Chapter 21. Adaptation and Resilience* and Appendix H.
- **Fund cost-share programs:** The State should continue to expand the funding for cost share programs, such as Regenerate NY, to assist forest landowners in widespread implementation of reforestation and afforestation efforts. These existing programs can help move reforestation/ afforestation efforts forward while larger efforts, such as the NY Tree Corps become established.
- **Develop equipment loan program:** The SWCC should develop a tree planting equipment loan program to give landowners and operators access to specialized equipment for small- and large-scale tree planting projects.

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[322] Nowack, David J., and Eric J. Greenfield., 2018. "Declining urban and community tree cover in the United States." *Urban Forestry & Urban Greening* 32, 32-55.

- **Provide free tree seedlings:** DEC should expand or create new, free tree seedling programs such as Trees for Tributaries and Buffer in a Bag programs to assist landowners with planting projects. DEC should also explore partnerships with local governments and regional organizations to scale up programs.
- **Establish NY Tree or Climate Corps:** DEC should establish NY Tree or Climate Corp to provide direct tree establishment and maintenance services to public and private landowners. Staff for a NY Tree or Climate Corps would be regionally based and work with DEC Lands and Forests and local SWCDs, trees for tributaries, and other restoration programs to coordinate location selection, site needs, and implementation. A regionally based Tree Corps would be provided with several teams of staff (at least one team per DEC region) and equipment to establish and maintain seedlings at no or low cost to landowners.

LU3. Avoid Agricultural and Forested Land Conversion

The objective of this strategy is to maintain and protect the State's potential for carbon sequestration on agricultural and forested lands through avoided conversion. It will also help to enhance farm viability, increase food security, potentially reduce future GHG emissions from VMT when implemented with smart growth measures, and protect forest benefits including wildlife habitat, local forest products, and flood protection. The components below should target avoided conversion of both small and large parcels, as appropriate.

In the past five to 10 years, 65,327 acres of forest land have been converted to other uses each year, such as development, renewable energy production, or agriculture, while only 37,909 acres of non-forest have reverted to forests annually.[323] This strategy proposes additional research and legislation to keep forests as forests. Research activities would include determining and prioritizing the most efficient and effective conservation activities and policies to keep forests as forests and prevent emissions. Legislative changes could take several years and would support forestry activities and require mitigation following development of forests to offset forest conversion emissions and sequestration loss.

Agricultural land can capture carbon in the land base and prevent future emissions from vehicle use by preventing sprawl development. Though well-managed forests sequester more carbon than agricultural lands, properly managed agricultural lands can store carbon and provide other co-benefits. Protecting

[323] U.S. Department of Agriculture Forest Service. 2020. "Forests of New York, 2019." *Resource Update FS-250*. Madison, WI. 2p. https://doi.org/10.2737/FS-RU-250.

farmland has the potential to maintain or improve local food production, community resilience, water quality, air quality, storm and flood mitigation, public infrastructure protection, drought resilience, wildlife habitat, economic development, rural viability, and employment. All of these may have associated health benefits. This strategy requires continued support from public policy and funding for land acquisition, conservation easements, and tax incentives; outreach to landowners for interest in selling lands or conservation easement opportunities; coordination with vast numbers of municipalities with different zoning and planning goals (home rule); improved data connecting land conversion and quantification of GHG emission reduction; and understanding of the opportunities for land access and intergenerational land transfer.

Components of the Strategy

- **Increase funding and capacity of existing programs:** The State should increase funding for farmland and forestland protection programs to plan for agriculture and forestry and purchase development rights (through conservation easements) by the State, municipalities, and land trusts.
- **Increase support for historically unrepresented farmers:** AGM should assist farmers in securing long-term leasing and farm transfer to historically unrepresented and beginning farmers. This should support youth engagement, internships, and educational opportunities.
- **Strengthen State programs that support agriculture:** AGM should continue and strengthen agricultural assessment and agricultural districts programs.
- **Enhance local capacity to conserve lands:** The State should increase local capacity to conserve agricultural, forested, and other natural lands through statewide authorization of the Community Preservation Act, for the purposes of land conservation for carbon sequestration, and to support land use patterns that reduce GHG emissions such as transit-oriented development. Consideration should also be given to elevating the Conservation Partnership Program, Forest Conservation Easements for Land Trusts, Community Forests program, and other programs that facilitate land acquisition/conservation.
- **Expand legislation:** The State should expand legislation to secure local government's ability to designate Minimum Maintenance Roads to reduce subdivision and development pressure on roads that may result in conversion of farmland and forestland to other land uses.
- **Research avoided conversion impacts:** DEC and AGM should continue researching ways to support avoided conversion of forest lands and farmland, respectively, including by quantification of No Net Loss, prioritizing conservation activities, and monitoring to quantify policy impacts.

- **Increase support for succession and farmland and forestland access:** AGM and DEC should support farmland and forestland access and succession with the advancement and development of programs that make farmland and forestland more affordable and assist farmers and private landowners to navigate generational transfer issues. AGM and DEC should also expand education and technical assistance for beginning farmers and forest landowners and generational transfer. Farmland-focused efforts should focus on assisting farmers with business planning and modeling and expanding supply chain development for new products.
- **Link farmland protection with environmental management programs:** AGM, DEC, USDA Natural Resources Conservation Service (NRCS), and USDA Farm Services Agency should make connections between existing programs (such as Agricultural Environmental Management [AEM], Climate Resilient Farming [CRF], and Agricultural Nonpoint Source Abatement and Control [AgNPS]) to increase co-benefits. This action should target protected farmland for agricultural best management practices (BMPs) that reduce GHG emissions and sequester carbon like soil health management practice systems.
- **Foster new datasets to support decision-making:** AGM and DEC should work with partners to develop new datasets to support avoided conversion and develop monitoring and quantification methodologies to measure the impacts of avoided conversion.
- **Strengthen Right to Practice Forestry law:** The State should enact legislation to strengthen the Right to Practice Forestry law (Environmental Conservation Law, ECL § 9-0815) to prevent municipalities from unreasonably restricting or regulating forestry operations on private land.
- **Mitigate impact from renewable energy projects on forests and agricultural lands:** DEC and AGM should work with the New York State Energy Research and Development Authority (NYSERDA) and Office of Renewable Energy Siting (ORES) to facilitate the siting of renewable energy projects, including solar on appropriate sites, to avoid adverse impacts to New York forests and agricultural lands in order to mitigate impacts to agricultural production, and carbon storage and sequestration. In some cases, this may include rejection of a State subsidy, tax credits, and/or renewable energy credits in forests or agricultural lands with high carbon, climate, or other related benefits. This strategy should also align with the recommendations put forward by the Farmland Protection Working Group and the Agricultural Technical Working Group for further actions and research to mitigate the impact of renewable energy projects on agricultural lands.

LU4. Protect and Restore Wetlands

This strategy focuses on maintaining and enhancing the carbon sequestration potential of freshwater, non-tidal wetlands; coastal and estuarine tidal wetlands; submerged aquatic vegetation; and other coastal

habitats in New York through protection, restoration, and monitoring. While GHG emissions reduction by wetlands may be low compared with forests in New York, it is important to note that many of the State's wetlands are forested, and all wetlands are part of the natural infrastructure necessary for climate adaptation and resilience and collectively contribute to overall carbon storage and sequestration strategies.

Protection of New York's 2.4 million acres of freshwater, non-tidal wetlands (1990s estimate) can contribute to sequestration goals necessary to reach the State's net zero emissions goal.[324] Today, some freshwater wetlands receive protection from ECL Article 24 and from Section 404 of the federal Clean Water Act. However, many remain vulnerable to alterations that can diminish or destroy their ability to store and sequester carbon, provide habitat, filter water, and mitigate flooding. At the federal level, recent changes to the 2020 promulgated Navigable Waters Protection Rule removed protections for a significant number of wetlands. At the State level, the threshold for freshwater wetland protection will drop from 12.4 to 7.4 acres in 2028, and implementation of the expanded protection will require changes to regulations, updated guidance, and greater administration and enforcement. Restoration and monitoring can further expand the role of wetlands and our understanding of their sequestration potential and opportunities. Estimates suggest that more than half of New York's historic wetlands were lost due to activities like filling, draining, and dredging; preventing similar trends is critical in the face of climate change and continuing pressure from development and incompatible land use change. Suggested legislative and regulatory actions and increased funding would address these gaps and provide opportunity for comprehensive protection, restoration, and monitoring of wetlands.

These recommendations are expected to be moderately difficult to implement. Risks to consider include potential opposition to increased regulation or municipal resistance to land protection. Institutionally, there may be insufficient funding and staff or policy differences in permitting agencies. In addition, there may be competing interests (such as agriculture and renewable energy) and variable landowner interest in selling or easements. Collectively, these potential barriers could be addressed through new funding (like the "Clean Water, Clean Air, and Green Jobs" Environmental Bond Act), partnerships, and prioritizing and increasing funding for the New York Open Space Conservation Plan to support climate strategies. Other possible mitigants include cross-agency and cross-industry communication and coordination;

[324] Huffman & Associates, Inc. August 1999, Finalized June 2000. *Wetlands Status and Trend Analysis of New York State - Mid-1980's to Mid-1990's.* Prepared for New York State Department of Environmental Conservation. June 2000. Larkspur, California. l7pp. plus attachments.

stakeholder engagement, outreach, and education; and reimbursement programs for lost municipal tax revenue.

Components of the Strategy

Efforts in this area can expand and enhance existing programs at relatively low cost, with funding primarily for increased agency staff and land acquisition.

Nature-Based Features

- **Incentivize the use of natural and nature-based features through Army Corps of Engineers regional permits:** DOS, DEC, and DOT should develop regional permits (or specific Nationwide Permit 54 regional conditions) with Army Corps of Engineers to incentivize use of natural and nature-based features to enhance resilience and ecosystem benefits of freshwater and tidal wetlands.

Freshwater Wetlands

- **Increase investment in freshwater wetlands:** The State Legislature, DEC, and DOS should increase investment in the protection, restoration, and monitoring of freshwater, non-tidal wetlands, and adjacent areas, including riparian areas, to maximize carbon sequestration potential (such as the "Clean Water, Clean Air, and Green Jobs" Environmental Bond Act, the EPF, and grants programs like DEC's Water Quality Improvement Program and the Conservation Partnership Program). This should be accomplished within 10 years with assistance from stakeholders that may include OPRHP, conservation NGOs, counties, municipalities, land trusts, and SWCDs.
- **Prioritize protection and restoration of wetlands with the potential to sequester carbon:** The State should fund research that will evaluate the methane emissions and carbon sequestration associated with freshwater impoundments and the impact of their specific water-level and salinity management strategies. DEC should also identify historically drained freshwater wetlands where the oxidation of organic carbon in drained soils is an ongoing source of CO_2 to the atmosphere. These areas should be prioritized for any voluntary buyouts and restoration to wetland status.

Tidal Wetlands

- **Address sea-level rise in State coastal regulations:** DEC should revisit implementation of the tidal wetlands and coastal erosion hazard areas regulatory programs in light of sea-level rise

projections, develop internal and external guidance, and determine whether changes in law and regulations are necessary (such as a review of 6 NYCRR Part 661 to consider whether existing elevation, distance, and setback limits on tidal wetlands and adjacent area jurisdiction will remain adequate as sea level rises).

- **Increase planning and investment in existing tidal wetlands and other coastal habitats:** The Legislature, DEC, and DOS should increase investment in the protection, restoration, and monitoring of existing tidal wetlands, including submerged aquatic vegetation, to protect their ability to sequester carbon from declines due to marsh drowning, sediment starvation, and seagrass die-offs caused by pollution in runoff and coastal water quality (such as the "Clean Water, Clean Air, and Green Jobs" Environmental Bond Act or the EPF, and grants programs like the Conservation Partnership Program). DEC should develop a portfolio of design-build and shovel-ready marsh restoration projects so that New York can compete with neighboring coastal states for high-quality dredge material from Army Corps of Engineers and is ready to take advantage of federal cost-sharing opportunities. As sea level rises, marshes that are unable to migrate are expected to drown and become a source of CO_2 to the atmosphere. According to the Intergovernmental Panel on Climate Change (IPCC) and the U.S. Environmental Protection Agency (EPA), these emissions occur as flooded organic matter (e.g., stored soil carbon and biomass) decomposes and are considered anthropogenic. Depending on the rate of sea-level rise, failure to allow marshes to migrate inland as sea level rises is expected to reduce the size of the land use carbon sink as these areas drown and begin to act as a net source of CO_2. Much of New York's coastline is highly urban and hardened. Planning and investment are required to allow marshes to migrate rather than drown in these areas.**Plan for sea-level rise and allow marshes to migrate in the future:** DEC should work with municipal partners to create mitigation banks that acquire, restore, and monitor larger tracts of tidal wetland habitat by bundling credits purchased by applicants for State tidal wetlands permits when their projects cause smaller amounts of unavoidable habitat loss, such as the Sawmill Creek wetland mitigation bank.[325] DEC should identify future potential marsh migration routes as sea-level rises and prioritize these parcels for purchase and restoration, fund municipal coastal debris removal efforts, map and remove historical fill and other obstacles to marsh migration on public land, remove abandoned boats and other large marine debris that smother and damage existing tidal wetlands, and create an

[325] New York City Economic Development Corporation. "Saw Mill Creek Wetland Mitigation Bank Credits." Accessed November 2021 at https://edc.nyc/project/marshes-initiative.

insurance program that defrays the financial risk associated with cleaning up legacy pollutants when municipalities acquire coastal properties for marsh restoration and protection.

LU5. Mapping, Research, Planning, and Assistance

This strategy focuses on maintaining and enhancing the carbon sequestration potential of natural areas in New York, including wetlands, coastal habitats, forests, and grasslands, through improved mapping (both regulatory and non-regulatory), research, conservation planning guidance, stewardship, and assistance for local governments and landowners.

Regulatory programs and land acquisition are two important strategies for maintaining and restoring carbon sequestration potential. These programs must be enhanced with current science, conservation guidance, and increased capacity of partners like local government planners and landowners who routinely make decisions that have lasting impacts on natural areas, including those that have little protection like small wetlands and forests. These strategies are needed to pair priority conservation areas with priority growth areas – a key component of smart planning and smart growth that can sustain large, functioning natural areas that provide health benefits to people and other ecosystem services like flood mitigation, habitat for plants and animals, and opportunities for outdoor recreation for residents and visitors.

Newly available technologies and non-regulatory models from other regions and states can inform these enabling strategies and include relatively low-cost mapping, analysis, research, technical assistance, and funding. Success will require agency staff to provide technical assistance, training, and project management and to provide funding for small grants, research, mapping, analysis, development of implementation material and tools, and stewardship initiatives. Also important are sufficient funding and partnerships to ensure adequately resourced programs, additional education and outreach to communities, and targeted training and technical assistance for key decision-makers and stakeholders.

Components of the Strategy

- **Update wetland and natural resource mapping:** DEC should apply the best available technology to update maps of wetlands (regulated and unregulated, tidal and non-tidal), shallow water habitats, Significant Coastal Fish and Wildlife Habitats, Coastal Erosion Hazard Areas, and priority forests and natural areas. DEC should also ensure all maps and inventories are accurate and publicly available, and schedule recurring updates using the best available technology. This

effort should engage OPRHP, DOS, conservation NGOs, research partners, SWCDs, and other State agencies in the process.

- **Consider technologies:** The State should consider emerging and tested mapping technologies, including those applied in light detection and ranging technology, such as Enhanced Wetlands Mapping in the New York City Watershed, Land Cover Mapping and Modeling Initiatives in Chesapeake Bay Watershed and Delaware River Basin, Object-based Wetland Mapping Approach for Pennsylvania, and the National Oceanic and Atmospheric Administration's new high resolution land cover data products.
- **Develop a statewide conservation framework:** DEC should develop a statewide conservation framework.[326] The framework should incorporate current, accurate spatial data on critical ecosystems (terrestrial and aquatic), including priority ecosystem complexes and future needs that address climate adaptation needs (such as landscape connectivity, wetland migration pathways, and source water areas), and provides basis for prioritizing State funding, tax relief, land acquisition, and technical assistance programs to conserve priority natural areas and promote smart growth. This should be publicly accessible, and DEC should also provide outreach and assistance to ensure appropriate and effective use of framework. This effort should engage stakeholders such as OPRHP, DOS, conservation NGOs, research partners, SWCDs, regional planning commissions, and land trusts. This component aligns with the adaptation and resilience strategies discussed in further in *Chapter 21. Adaptation and Resilience* and Appendix H.
- **Assist local governments to create land use policies:** DOS and DEC should assist county and local governments to create land use policies, land conservation programs, and smart growth strategies that prioritize and protect wetlands, forests, grasslands, stream buffers, and other natural areas through actions such as statewide authorization of the Community Preservation Act. This should include providing training and support on use of Community Risk and Resiliency Act (CRRA) model local laws and other best practices in planning and zoning for conservation. Key partners include regional and county planning commissions, conservation NGOs, and SWCDs.
- **Fund Conservation Advisory Councils and Environmental Management Councils:** The State should provide funding for Conservation Advisory Councils, Environmental Management

[326] Example of regional conservation frameworks in New York include the Hudson River Estuary Wildlife and Habitat Conservation Framework and the Tompkins County Unique Natural Areas, Conservation Plan and Strategy. A statewide example is the Florida Critical Lands and Waters Identification Project. An increasing number of statewide datasets are available to inform a New York framework; examples include the Open Space Institute's Climate Resilient Landscape Initiative and NY Natural Heritage Program databases and models.

Councils, and other municipal committees with similar roles to support their work in conservation and land use planning, nature-based solutions, and climate action.

- **Provide conservation incentives to landowners:** The State should enhance and create landowner incentives and other techniques to conserve and restore forests, tidal and non-tidal wetlands, grasslands, and natural areas and utilize living shoreline and nature-based solutions such as tax abatement programs, tax incentives, land conservation programs, and payments for ecosystem services. Landowner incentives and techniques to conserve and restore forests include support for existing restoration, forest technical assistance, and land acquisition programs, and creating new tax incentives, payments for ecosystem services, and legislation to prevent forest conversion. Additional details on forest restoration and conservation are included in multiple strategies in *Chapter 15. Agriculture and Forestry* and *Chapter 19. Land Use*.
- **Research and monitor carbon storage and sequestration potential:** The State should fund research, analysis, and monitoring to determine carbon storage and sequestration potential of tidal and non-tidal wetlands, submerged aquatic vegetation, forests, and other priority natural areas, to increase understanding of mitigation opportunities and to establish siting protocols and priorities for conservation and restoration. New York is expected to undergo hydrological changes that are likely to change the distributions of hydric soils across the state, and therefore the rates at which wetlands sequester and store carbon in their soils and emit methane. This, combined with further saltwater intrusion into coastal freshwater habitats, is likely to affect the balance of carbon sequestration and methane emission by New York's land use sector in an as yet unquantified way.
- **Develop new benefit-cost analysis tools:** DEC, in collaboration with DOS and research partners, should develop benefit-cost analysis tools that incorporate the value of carbon for use in planning, environmental assessment, and permitting of conservation and restoration projects.
- **Develop demonstration projects:** DEC and DOS should initiate climate resilient demonstration projects by working with existing wetland protection, restoration, or natural and nature-based features projects to add additional components for maximizing climate resilience and carbon sequestration capacity, developing quantification models and best practices, and monitoring effectiveness.
- **Develop a service corps program:** DEC and OPHRP should create a conservation and restoration service corps program[327] for early and experienced professionals and a youth climate conservation corps for unemployed young people ages 18 to 25. The programs should focus on

[327] GulfCorps is an example of a conservation corps focused on creating resilient coasts and communities in five Gulf Coast states.

ecosystem stewardship, management, and restoration activities to maximize carbon sequestration in natural and developed areas (such as tree plantings in lower-income neighborhoods, wetland restoration, and native grassland establishment in municipal parks). These programs would support a just transition and "green job" career training. This component aligns with adaptation and resilience strategies discussed further in *Chapter 21. Adaptation and Resilience* and Appendix H.

Consider Forests and Farmland in Land Use Policies

Local governments and organizations provide planning, guidance, and support for land use and to residents. However, many municipalities lack a comprehensive plan and/or zoning that clearly address afforestation or reforestation. Municipal comprehensive plans are used to proactively guide development and other community planning, and while these plans often include information from natural resource inventories, critical barriers, and other local and regional smart growth planning resources to help inform the plan, they often do not include forestland and farmland. The following strategies discuss how to better equip municipalities with the proper tools to ensure the protection of New York's natural and working lands, while still advancing renewable energy.

LU6. Provide Guidance and Support for Afforestation and Reforestation

Some municipalities and private landowners lack the expertise and capacity to support afforestation and reforestation projects, which may result in land being put toward other uses. This strategy involves providing funding and personnel resources to directly support communities and landowners in their planning and planting efforts as well as developing trainings and materials to increase outreach and education to local municipalities and organizations. This strategy would take several years to get in place, so it needs to be started as soon as possible to allow time for seedlings to become established in time to be a part of GHG emissions mitigation strategies by 2030 and 2050.

Components of the Strategy

- **Provide guidance for local communities:** DEC should develop guidance and provide support for local communities to plan and implement planting projects that help adapt to climate change.
- **Increase landowner assistance:** DEC should enhance agency and partner capacity to deliver technical assistance and education programs including planting plans and species selection for landowners. This includes assisting with planting plans and site and species selection, promoting tree planting programs, and increasing capacity through partnerships to meet requests, ensure minimal overlap of services, capture accomplishments, and coordinate efforts.

LU7. Increase Forest and Farmland Protection in Municipal Comprehensive Plans

This strategy proposes creation of tools to help municipalities identify and fund inventories of forest and farmland, development of BMPs, and a requirement to include forestland and farmland in planning efforts, which will help communities target lands for conservation and prevent emissions from land use conversion. Development of tools and BMPs would take several years.

Components of the Strategy

Identify Land Resources

- **Survey land resources:** DEC, in partnership with AGM and DOS, should conduct a quantitative survey of land resources across the State and identify critical barriers including options of using idle and underutilized lands.
- **Support the development of local natural resource inventories:** State agencies, such as DEC, DOS, and/or AGM, should provide funding to further development of natural resource inventories, critical barriers, and other local and regional smart growth planning and decision-making resources (such as maps to identify suitable reforestation locations) that include forestland and farmland. These resources should support local and regional smart growth planning and decision-making (such as maps to identify suitable reforestation locations, highest value cropland, and idle lands for farming).

Support Best Practices in Planning

- **Develop guidance for BMPs:** DOS and DEC should develop guidance and BMPs for the inclusion of forestland protection in municipal comprehensive plans, including strategies and best practices for land conservation, and identifying priority areas for conservation. DOS should fund technical assistance to implement guidance and BMPs effectively.
- **Require forest inclusion in planning:** State agencies should require the inclusion of forestland and farmland protection in State-funded municipal comprehensive plans.

LU8. Provide Guidance and Support on Clean Energy Siting

The Climate Act contains significant requirements for clean energy development, such as the distributed solar and energy storage targets. Local land use decisions are an important part of meeting these requirements in ways that revitalize communities and grow the economy. As discussed further in *Chapter 20. Local Government*, communities often do not have the capacity to plan for renewable energy siting.

The following components would better equip local municipalities and other decision-makers with the tools they need to effectively consider natural and working lands when planning for clean energy projects. This strategy has similar components as those presented in *Chapter 13. Electricity* (Strategy E4) and *Chapter 20. Local Government* (Strategy LG3).

Components of the Strategy

- **Develop new planning tools and resources:** NYSERDA should collaborate with community stakeholders, the agriculture and forestry sector, the solar industry, and utilities to develop new planning tools and resources to minimize the impact of energy siting on forest and agricultural lands. These tools would include mapping to help municipalities undertake a comprehensive evaluation of the potential for clean energy development in their communities and to plan proactively for deployment that maximizes local benefit and minimizes impact on lands with high-quality soils, forests, and other competing uses. These tools should also assist municipalities in considering co-location opportunities for agriculture and renewable energy generation.
- **Enhance technical and financial support:** NYSERDA should collaborate with regional planning boards to provide technical and financial support to help local governments plan for and review clean energy projects including wind, solar, transmission, distribution, storage, and vehicle charging. Incentives should be based on proximity of generation to current load centers and/or economic development sites that could combine infrastructure planning to incorporate renewable energy, storage, increase electric capacity and/or need for infrastructure to both achieve Climate Act requirements and to ensure site readiness of select locations for economic growth.

Promote Smart Growth

Smart growth is compact, mixed-use, mixed-income community development that is walkable, bikeable, and transit-accessible and contains a diversity of housing choices, open spaces, and public gathering places accessible to people of all ages, incomes, backgrounds, and mobility capabilities. Smart growth promotes locational precepts that seek to direct and concentrate development in what are referred to as priority development areas – such as downtowns, main streets, municipal centers, transit-oriented areas, abandoned manufacturing facilities, and Disadvantaged Communities, among others. Complementarily, smart growth seeks to prohibit or restrict development in what are called priority conservation areas, where development is less desirable for ecological, agricultural, hydrological, or recreational reasons, among others. Smart growth land use patterns reduce GHG emissions largely in the transportation sector by reducing automobile use, measured as VMT. More specifically, automobile travel is reduced by

decreasing the travel distance between daily locations through a denser concentration of different land uses that we regularly access; reducing the number of car trips necessary for daily activities by concentrating that mix of destinations within walking, biking, or transit distance of one another; and providing mobility alternatives to the automobile, such as walking, biking and public transportation (also known as mode-shifting).

The State has taken several steps to promote smart growth and re-investment in downtowns, cities, and other municipal centers. The Downtown Revitalization Initiative, for example, provides $100 million annually to redevelop and revitalize 10 downtowns, awarding $10 million to one community in each of the State's 10 economic development regions. The State has also funded smart growth, sustainability, and climate mitigation and resiliency planning through a number of programs, including the DOS Countywide Resiliency Planning program, DEC's Climate Smart Communities and Adirondack/Catskill Smart Growth grant program, and NYSERDA's Cleaner, Greener Communities initiative. And most recently, DOS piloted a Smart Growth Comprehensive Planning grant program to provide much-needed resources to municipalities to develop updated comprehensive plans to guide future development and promote smart growth at the local level. The New York land bank law has yielded the most robust set of land banks in the nation, redeveloping vacant properties and combating blight in disinvested neighborhoods. The State's historic preservation tax credit has generated significant investments in historic buildings in traditional downtowns. The Complete Streets law has helped to create walkable, bikeable, transit-friendly communities for all users. And the State passed the Smart Growth Public Infrastructure Policy Act to curtail State investments in sprawl. Continuing and expanding upon the implementation of municipal, county, and regional smart growth plans, policies, zoning, and projects will play a critical role in continuing to achieve the mandates of the Climate Act through reduced VMT.

The following smart growth recommendations seek synergies that result in a proliferation of smart, equitable planning, zoning, and projects, while synchronizing with supportive transportation and housing policies and practices. In particular, the strategies and recommendations align with related transportation goals such as doubling public transportation service outside the MTA service area by 2035 and significantly expanding service within the Metropolitan Transportation Authority's (MTA) service area, equitable transit-oriented development (E-TOD), and shifting to low- or no-carbon transportation alternatives to a single-occupancy automobile. State agencies and local government officials responsible for implementing these smart growth recommendations should reference the California Sustainable Communities and Climate Protection Act as a guide for integrated land use, housing, and transportation planning, recognizing any shortcomings and the different governance structures of California and New

York.[328] This California statute, effective January 1, 2009, requires integration of planning processes for transportation, land use, and housing and offers local governments regulatory and other incentives to encourage more compact new development and transportation alternatives.

These strategies and recommendations acknowledge and respect the fact that land use zoning falls largely within the authority of municipalities (cities, towns, and villages). The State, however, can influence those local land use decisions through direct planning grants, regional/county planning, technical assistance and capacity-building, and State and local incentives, disincentives and, where appropriate, mandates. These strategies and recommendations also acknowledge that smart growth principles should be implemented differently between rural, suburban, and urban areas of the State, accounting for local conditions and needs, and thus, State resources should be tailored to fit those differing conditions and needs.

Counties and regional planning entities can provide support to municipalities to develop local land use plans and local laws that promote smart growth. It is also critical to recognize the prioritization of Disadvantaged Communities in the development of these recommendations. Smart growth strategies and recommendations represent part of a decades-long effort to address past discriminatory land use policies in historically marginalized communities and level the playing field.

LU9. Regional and County Planning and Technical Assistance

Regional and county planning should guide future growth, redevelopment, and conservation at the multi-municipal scale. There should be facilitation and support of collaborative multi-municipal smart growth comprehensive planning at the county and regional scales to inform and guide land use decisions, including designation of priority development areas and priority conservation areas. While land use zoning, which determines final land use and development decisions, falls within the jurisdiction of municipalities, this broader regional lens is necessary to inform those local decisions to serve broader land use goals that transcend municipal boundaries – i.e., regional economies, daily travel patterns and transportation systems, housing needs (particularly the availability of permanent affordable housing to meet the entire region's needs and avoid displacement and gentrification, as highlighted by the CJWG) hydrologic functions, open space preservation, and ecosystem health, among others.

[328] S.B. 375, 2007-08 Reg. Sess., Chapter 728, Stats. 2008 (Cal. 2008).

Components of the Strategy

- **Achieve alignment with regional sustainability plans and principles:** State funding agencies and sources should align selection criteria with the priorities and principles contained in the Cleaner, Greener Communities Regional Sustainability Plans, to the extent practicable.
- **Achieve alignment with REDC plans and projects:** ESD, DOS, DEC and NYSERDA should identify opportunities to increase coordination with REDCs and to ensure that REDC regional strategic plans align with sustainability/smart growth/equity principles and to identify opportunities to revitalize Disadvantaged Communities and legacy/rust belt cities through implementation of the strategies in this Scoping Plan.
- **Support county-based resiliency planning:** DOS should expand Countywide Resiliency Planning grants to incentivize county-wide smart growth comprehensive plans that adhere to clear State goals and outcomes. These plans should include health impact assessments where feasible and relevant, particularly in Disadvantaged Communities that have experienced health disparities.
- **Prioritize areas for development and conservation:** The State, particularly DOS and DEC, should develop criteria and incentives for regional entities and counties to identify priority development areas (including areas appropriate for clean energy siting) and priority conservation areas in consultation with local jurisdictions and communities. The following definitions of priority development areas and priority conservation areas were developed in consultation with the Land Use and Local Government Advisory Panel and the CJWG.
    - Priority development areas are areas appropriate for a concentration of compact, mixed-use, mixed-income development with a variety of housing options at all levels of affordability. Priority development areas should have the proper infrastructure in place or have been identified as sites for infrastructure investment (see Strategy E3 and Strategy E7 in *Chapter 13. Electricity*) to accommodate greater density and should be walkable, bikeable, and transit-accessible. Primary examples may include BOAs, downtowns, central businesses districts, municipal centers, hamlets, former industrial districts, infill projects in developed areas, obsolete fossil fuel-based power plants, re-development/adaptive-use of existing buildings, TOD/E-TOD, Disadvantaged Communities, dead/dying malls, and vacant property clusters designated by land banks, among others.
    - Priority conservation areas are areas that preserve and restore vital habitats, landscape connectivity, biodiversity, natural water movement, local food security, and passive recreation. They may include wetlands, riparian areas, Critical Environmental Areas (as

defined by New York's State Environmental Quality Review Act [SEQRA]), forests, agricultural lands and other natural areas and working lands, among others.

- **Expand State funding eligibility for regional and community-based organizations:** The State, particularly DOS, should extend eligibility for funding in program solicitations for select smart growth-related planning and implementation grants to regional planning councils and, where appropriate, qualified community-based organizations.
- **Further empower counties to implement shared regional smart growth priorities:** DOS, in collaboration with counties and local governments, should evaluate opportunities through the use and potential expansion of General Municipal Law § 239 County Review to further empower counties to implement shared regional smart growth priorities throughout metropolitan and micropolitan statistical areas in municipal planning, zoning, and subdivision proposals.
- **Encourage local tax incentives for infill and downtown redevelopment:** DOS should work with the industrial development agencies and authorities in each region to proliferate tax incentive policies in their Uniform Tax Exemption policies to incentivize infill and downtown redevelopment.

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

The State should provide direct planning and zoning assistance to local communities and promote municipal implementation of mitigation strategies through enhanced technical assistance, increased support for local adoption of zoning and land use regulations consistent with smart growth principles, and local policies that support sustainable, equitable development and the accelerated expansion of local clean energy while also ensuring and enhancing public outreach, education and engagement, particularly in frontline communities that have historically been disenfranchised and discriminated against in the local land use decision-making process. This strategy aims to empower local governments to achieve smart growth planning and development.

Components of the Strategy

- **Provide State support for comprehensive plans:** DOS should expand the Smart Growth Comprehensive Planning grant program to assist municipalities in the efficient development and adoption of smart growth-focused comprehensive plans, district/corridor plans and zoning, including form-based codes. Assistance should extend to compliance with SEQRA, including completion of Generic Environmental Impact Statements (GEISs) and should include providing guidance to communities undertaking comprehensive planning and/or re-zoning to put moratoria

on projects such as new gasoline stations, underground storage or sprawl-type subdivision and development that may be counter to smart growth and climate goals. Particular attention should be given to disadvantaged and smaller rural communities that have less capacity, funds, or staff for comprehensive planning.

- **Expand technical assistance programs to support municipal smart growth planning:** The State should expand the roles and responsibilities of DOS Smart Growth planning, NYSERDA Clean Energy Communities Regional Coordinators, and DEC Climate Leadership Coordinators to provide smart growth planning and zoning technical assistance and capacity-building to municipalities, which would include the integration of land use, transportation, economic-development, and housing planning and projects.
- **Develop model smart growth local laws:** DOS should collaborate with other State agencies as appropriate, including DEC, New York State Homes and Community Renewal (HCR), New York State Office of Temporary and Disability Assistance (OTDA) and NYSERDA, to develop model local laws to assist municipalities of various sizes and capacities to implement smart growth plans and zoning laws, including model inclusionary zoning to address gentrification, displacement, and the concentration of poverty. Model local laws to address density and affordability should also be developed, including zoning and site plan review laws that accommodate a variety of densities and uses for localities as a baseline. Such laws should also make available siting for supportive housing, group homes, homeless shelters, multifamily housing, accessory dwelling units, and other affordable housing and the expediting of local review of supportive housing or affordable housing where at least 20% is affordable at 80% Area Median Income or below.
- **Consolidate all State funding opportunities:** All State funding programs should be included in the annual Consolidated Funding Application, to the extent practicable, and the State should provide a centralized source of information on all State funding opportunities for municipalities and not-for-profits. This will help with ease of access to State funding opportunities for Disadvantaged Communities.
- **Enhance the awareness of State resources by publishing a Sustainable Development Resource Guidebook:** The State should develop a Sustainable Development/Climate Act Resource Guidebook to serve as a resource to assist regional entities, counties, municipalities, and developers in navigating, accessing, and integrating State programs relevant to sustainable community and clean energy development. This should improve accessibility and ease coordination across programs.
- **Provide municipalities with baseline data for planning:** The State should build on existing State data portals such as NYSERDA's Climate Science Clearinghouse and the DOS Geographic

Information Gateway to provide a centralized, user-friendly digital repository of data resources useful to regional/county/local planners in the development of smart growth land use plans, zoning codes and projects, including data on affordability and other equity matters, Disadvantaged Communities, climate change projections, affordability, poverty, and public health. This data resource should be framed as a one-stop shop to consolidate data and planning tools related to climate change mitigation and adaptation, disaster risk reduction, and regional and local land use planning and clean energy siting.

- **Expand site/facility re-use planning:** NYSERDA and DOS should support community-based planning to inform redevelopment of obsolete power plant sites and brownfields, particularly through NYSERDA's Just Transition Reuse Planning Program and the DOS BOA program, in furtherance of the principles developed by the Just Transition Working Group (JTWG).
- **Ensure equitable development while avoiding displacement and gentrification:** DOS and other State agencies should explore opportunities to address displacement, gentrification, the concentration of poverty, segregation, and inequitable access to opportunity by providing assistance and resources for community land trusts, land banks, and inclusive zoning that promotes mixed-income, affordable, rental and supportive housing, and shared/community-centered ownership models.
- **Provide outreach and educational materials to support equitable development:** The State should provide model outreach materials, trainings, and other tools and guidance to support pre-development community outreach, engagement, and education for smart growth projects to generate support, awareness, capacity, and buy-in prior to a developer filing the project with a municipal board. These model outreach and educational materials should reflect the differing conditions and needs between rural, suburban, and urban areas of State, and as such, this model should be created in coordination with community-based organizations, local government officials, universities, and others, as needed.
- **Increase the role of community-based organizations in local planning:** DOS should provide grant funding to support community-based organizations to develop local land use plans for Disadvantaged Communities that can inform and guide development to reduce emissions, adapt to climate change, and achieve a just transition. Examples of such plans include UPROSE's Green Resilient Industrial District, El Puente's Green Light District, THE POINT Community Development Corporation's South Bronx Community Resiliency Agenda, and PUSH Buffalo's PUSH GREEN / PUSH BLUE.

LU11. Align State Funding Priorities

State funding should align with smart growth and equity goals and seek to eliminate funding that induces sprawl, particularly with new infrastructure. This is the stated purpose goal of the State Smart Growth Public Infrastructure Policy Act. The Smart Growth Act, however, has been utilized primarily in a review and advisory capacity, rather than as a basis for granting funds for smart growth and, just as important, denying funds for sprawl. An interagency working group should develop amendments to the Smart Growth Public Infrastructure Policy Act to implement its goal and the requirements of the Climate Act more fully. The amendments should include definitions of priority development areas, priority conservation areas, E-TOD, and climate justice, along with stronger requirements for State spending beyond the limited existing scope of public infrastructure to comport and align with these definitions.

Components of the Strategy

- **Refine/align State smart growth public infrastructure act criteria:** The State should enact legislation to amend the 11 Smart Growth criteria contained in the State Smart Growth Public Infrastructure Policy Act to define public infrastructure and more accurately identify infrastructure projects that enable both smart growth and sprawl, as well as align those criteria more directly with the Climate Act, with an emphasis on equity and affordability. These amendments should include definitions of priority development areas and priority conservation areas. The amendments should also expand the purview of the law to apply to all State agencies and authorities and all relevant State programs, including planning and design grants (not just infrastructure).
- **Prioritize funding for smart growth:** State programs should prioritize funding for infrastructure projects that most clearly support smart growth principles and outcomes, as determined through the smart growth review that agencies must conduct through the Smart Growth Public Infrastructure Policy Act, particularly projects in priority development areas.
- **Provide stable funding for Restore NY and the Environmental Restoration Program:** The State should provide regular funding for Restore NY and DEC's Environmental Restoration Program to ensure dependable availability of support for the restoration of distressed, vacant, abandoned, contaminated, and/or brownfield areas.
- **Expand priority State support for BOA projects:** The State should expand and enforce the "priority and preference" provision in the BOA statute to include other relevant grants beyond those already identified in statute.

- **Streamline relevant funding opportunities:** The State should assess opportunities to merge, combine, or closely coordinate related relevant programs across agencies in order to provide consistency and offer a more streamlined presentation of funding opportunities for communities, to the extent consistent with legal requirements.

LU12. Accelerate Transit-Oriented Development

Smart Growth planning should accelerate mixed-use, mixed-income TOD, with an emphasis on E-TOD, around key transit hubs served by rail and bus rapid transit. TOD creates compact, mixed-use, mixed-income, walkable communities within a half-mile of rail or transit hubs. TOD decreases dependence on cars, expands mobility options such as walking and biking and generates the critical mass of residents and commuters needed to support an expansion of public transit services. TOD also presents an ideal opportunity to meet equity and climate justice goals of the Climate Act by incentivizing green affordable housing near transit, which also reduces transportation costs for lower-income households. E-TOD ensures that affordability, climate justice and environmental justice play a prominent role in the TOD equation in planning, zoning, funding, project implementation, and public policies on the State and local levels.

Several State programs have sporadically funded TOD, including HCR's Low-Income Housing Tax Credit program, Downtown Revitalization Initiative, Better Buffalo Fund, Local Waterfront Revitalization Program and REDC Strategic Plans and priority projects, among others. The State should, however, provide dedicated and priority funding, in existing and new programs, specifically to support TOD because TOD/E-TOD shows the greatest promise of reaching the Climate Act's GHG emission reduction and equity goals in land use. While land use patterns generally take time to shift and produce measurable climate results, TOD can be expedited with State support given its defined geographic scope and focus; TOD also produces more measurable GHG reduction outcomes. The CJWG recommends a statewide program to plan and develop E-TOD.

Components of the Strategy

- **Support TOD planning and zoning:** The State should support municipal E-TOD plans and zoning, including form-based codes, through a grant program and guidance and technical assistance (including model local laws).
- **Promote equity tools and resources:** The State should promote and support equity tools and models, such as community land trusts, land banks, inclusionary zoning and shared/community-

centered ownership, and equity models to address displacement, gentrification, and the concentration of poverty.

- **Require TOD plans around commuter rail:** The State should require communities with commuter rail stations to have an adopted TOD plan that meets State criteria to be eligible for supportive State TOD resources, with due consideration for smaller rail stations that may not have a full TOD plan.
- **Prioritize TOD in the Smart Growth Public Infrastructure Policy Act:** The State should enact legislation to amend the State Smart Growth Public Infrastructure Policy Act to more effectively direct State resources to projects that advance TOD, as well as add a definition of, and criteria for, TOD that includes rail and bus and the particular transit needs of rural areas. Amendments should extend applicability of this law to all State agencies and authorities and all relevant State programs, including planning and design grants (not just infrastructure).
- **Provide subsidies for E-TOD:** The State should explore enhanced subsidies for TOD projects, especially those that include a meaningful threshold level of affordable housing and incorporate tools and measures such as community land trusts, land banks, inclusionary zoning, and shared/community-centered ownership models.
- **Expand TOD as a State housing goal:** The State should include the TOD State Housing Goal in HCR's 9% Low-Income Housing Tax Credit program in all relevant State solicitations, consider other opportunities for tax credits for projects in TOD areas that are consistent with adopted TOD plans, and meet State criteria for equity and affordability, such as an additional "bump up" of Brownfield Cleanup Program tax credits in designated BOAs that are also TODs.
- **Support for GEISs:** The State should fund and support GEISs to streamline the review process in TODs. This can be accomplished by creating a revolving fund for municipalities to undertake GEISs for TOD zoning and projects. If a developer agrees to build according to the TOD zoning and accepts certain community benefits components, such as affordable housing, green infrastructure, green building or public spaces, the developer will pay back into the fund a portion of the cost of the GEIS (consider using tax increment financing for this purpose).
- **Support local parking management policies that reduce automobile-dependence:** DOS, in collaboration with municipalities, MPOs, and affected agencies, should explore opportunities to support and incentivize lower municipal parking minimums and/or parking maximums in consideration of decreased household need, given proximity and accessible of transit. State programs, for instance, can recognize and reward applications for TOD funding in municipalities that have enacted such parking management reforms.

- **Structured parking:** The State should support planning to facilitate appropriate structured parking to achieve a desired TOD density and explore opportunities to defray the cost of structured parking in conjunction with TOD development (e.g., State funding, low-cost financing, and tax credits, as well as the development of best practices for design and construction of structured parking that integrates ground-level retail and that can be retrofitted for other uses should the demand for parking decline in the future).
- **Improve municipal coordination with transit entities:** The State should require municipalities to notify the relevant transit entities of planning, zoning, and projects that will impact transit ridership and parking needs to allow transit agencies an early opportunity to offer input on such potential impacts.