NEW YORK STATE OF OPPORTUNITY | Department of Agriculture and Markets

NEW YORK STATE OF OPPORTUNITY | Soil and Water Conservation Committee

NYS CLCPA / Climate Action Council Scoping Plan and Agriculture Environmental Management (AEM) Programs

Upper Susquehanna River Coalition (USC) Retreat

Brian Steinmuller
Division of Land and Water Resources / NYS Soil and Water Conservation Committee

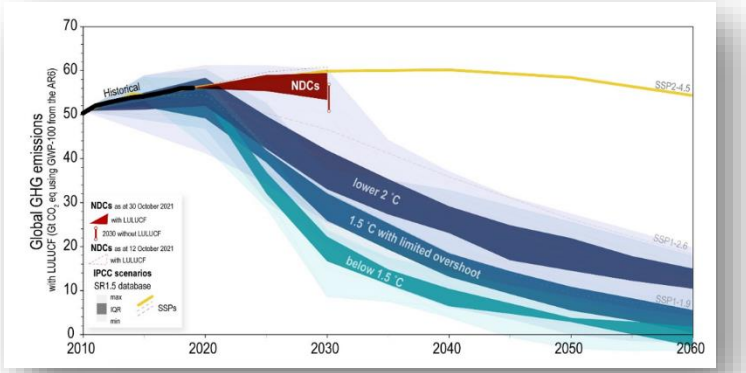
Kathy Hochul
Governor

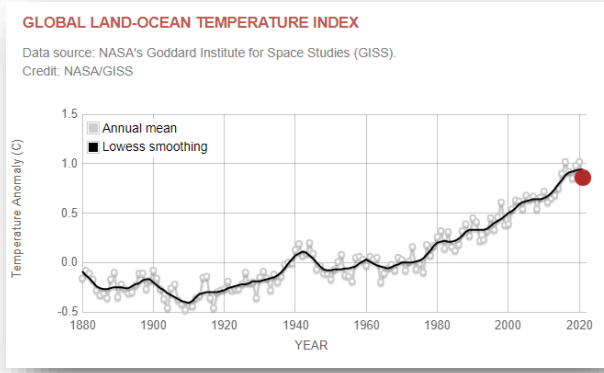
Richard A. Ball
Commissioner

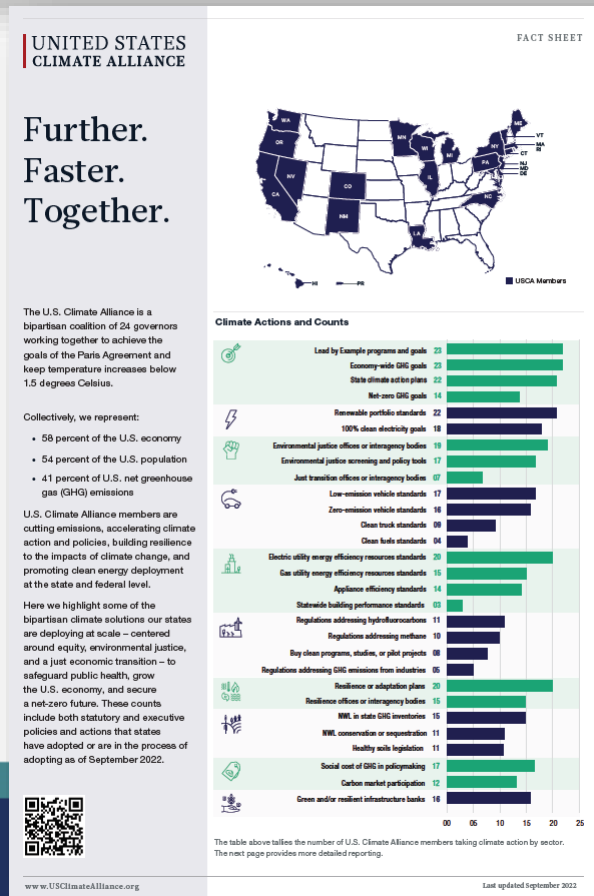
Dale Stein
Chair

Climate Policies

- Paris Climate Accord (2015)
  - 194 countries
  - Take measures to limit warming to +1.5C from pre-industrial levels by 2100
  - https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
- US Climate Alliance (2017)
  - 24 states
  - 50% GHG reduction by 2030 and net zero by 2050
  - www.usclimatealliance.org
- Private Sector Led
  - U.S. Dairy Net Zero Initiative
    - https://www.usdairy.com/sustainability/environmental-sustainability/net-zero-initiative
  - Dairy Sustainability Framework
    - https://dairysustainabilityframework.org
  - Corporate Sustainability Goals
    - Market-driven Environmental, Social and Governance (ESG) reporting and goals






UNITED STATES CLIMATE ALLIANCE

FACT SHEET

Further. Faster. Together.

The U.S. Climate Alliance is a bipartisan coalition of 24 governors working together to achieve the goals of the Paris Agreement and keep temperature increases below 1.5 degrees Celsius.

Collectively, we represent:

- 58 percent of the U.S. economy
- 54 percent of the U.S. population
- 41 percent of U.S. net greenhouse gas (GHG) emissions

U.S. Climate Alliance members are cutting emissions, accelerating climate action and policies, building resilience to the impacts of climate change, and promoting clean energy deployment at the state and federal level.

Here we highlight some of the bipartisan climate solutions our states are deploying at scale – centered around equity, environmental justice, and a just economic transition – to safeguard public health, grow the U.S. economy, and secure a net-zero future. These counts include both statutory and executive policies and actions that states have adopted or are in the process of adopting as of September 2022.

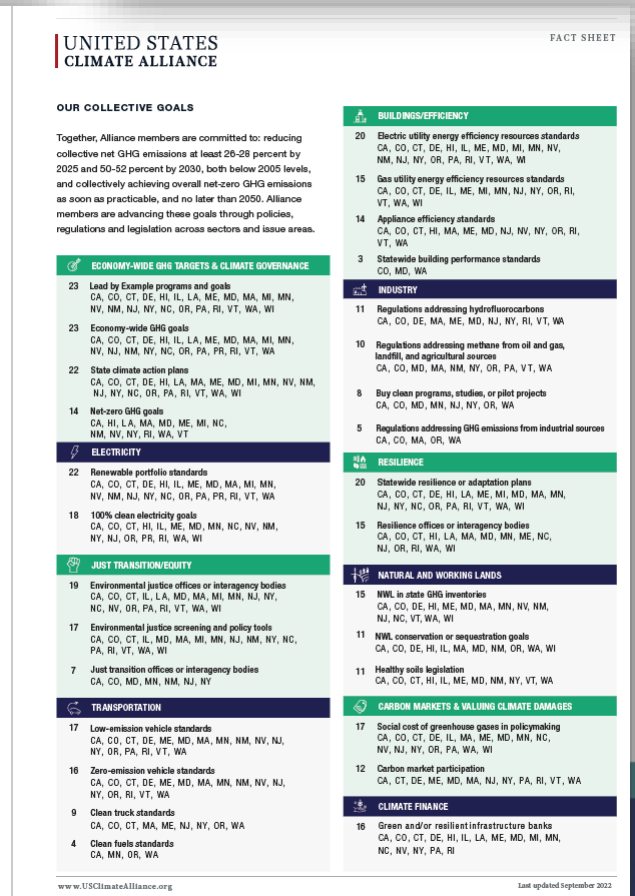
USCA Members

Climate Actions and Counts

The table above tallies the number of U.S. Climate Alliance members taking climate action by sector. The next page provides more detailed reporting.

www.USClimateAlliance.org

Last updated September 2022


UNITED STATES CLIMATE ALLIANCE

FACT SHEET

OUR COLLECTIVE GOALS

Together, Alliance members are committed to: reducing collective net GHG emissions at least 26-28 percent by 2025 and 50-52 percent by 2030, both below 2005 levels, and collectively achieving overall net-zero GHG emissions as soon as practicable, and no later than 2050. Alliance members are advancing these goals through policies, regulations and legislation across sectors and issue areas.

ECONOMY-WIDE GHG TARGETS & CLIMATE GOVERNANCE

23 Lead by Example programs and goals
CA, CO, CT, DE, HI, IL, LA, ME, MD, MA, MI, MN, NV, NM, NJ, NY, NC, OR, PA, RI, VT, WA, WI

23 Economy-wide GHG goals
CA, CO, CT, DE, HI, IL, LA, ME, MD, MA, MI, MN, NV, NJ, NM, NY, NC, OR, PA, PR, RI, VT, WA

22 State climate action plans
CA, CO, CT, DE, HI, LA, MA, ME, MD, MI, MN, NV, NM, NJ, NY, NC, OR, PA, RI, VT, WA, WI

14 Net-zero GHG goals
CA, HI, LA, MA, MD, ME, MI, NC, NM, NV, NY, RI, WA, VT

ELECTRICITY

22 Renewable portfolio standards
CA, CO, CT, DE, HI, IL, ME, MD, MA, MI, MN, NV, NM, NJ, NY, NC, OR, PA, PR, RI, VT, WA

18 100% clean electricity goals
CA, CO, CT, HI, IL, ME, MD, MN, NC, NV, NM, NY, NJ, OR, PR, RI, WA, WI

JUST TRANSITION/EQUITY

19 Environmental justice offices or interagency bodies
CA, CO, CT, IL, LA, MD, MA, MI, MN, NJ, NY, NC, NV, OR, PA, RI, VT, WA, WI

17 Environmental justice screening and policy tools
CA, CO, CT, IL, MD, MA, MI, MN, NJ, NM, NY, NC, PA, RI, VT, WA, WI

7 Just transition offices or interagency bodies
CA, CO, MD, MN, NM, NJ, NY

TRANSPORTATION

17 Low-emission vehicle standards
CA, CO, CT, DE, ME, MD, MA, MN, NM, NV, NJ, NY, OR, PA, RI, VT, WA

16 Zero-emission vehicle standards
CA, CO, CT, DE, ME, MD, MA, MN, NM, NV, NJ, NY, OR, RI, VT, WA

9 Clean truck standards
CA, CO, CT, MA, ME, NJ, NY, OR, WA

4 Clean fuels standards
CA, MN, OR, WA

BUILDINGS/EFFICIENCY

20 Electric utility energy efficiency resources standards
CA, CO, CT, DE, HI, IL, ME, MD, MI, MN, NV, NM, NJ, NY, OR, PA, RI, VT, WA, WI

15 Gas utility energy efficiency resources standards
CA, CO, CT, DE, IL, ME, MI, MN, NJ, NY, OR, RI, VT, WA, WI

14 Appliance efficiency standards
CA, CO, CT, HI, MA, ME, MD, NJ, NV, NY, OR, RI, VT, WA

3 Statewide building performance standards
CO, MD, WA

INDUSTRY

11 Regulations addressing hydrofluorocarbons
CA, CO, DE, MA, ME, MD, NJ, NY, RI, VT, WA

10 Regulations addressing methane from oil and gas, landfill, and agricultural sources
CA, CO, MD, MA, NM, NY, OR, PA, VT, WA

8 Buy clean programs, studies, or pilot projects
CA, CO, MD, MN, NJ, NY, OR, WA

5 Regulations addressing GHG emissions from industrial sources
CA, CO, MA, OR, WA

RESILIENCE

20 Statewide resilience or adaptation plans
CA, CO, CT, DE, HI, LA, ME, MI, MD, MA, MN, NJ, NY, NC, OR, PA, RI, VT, WA, WI

15 Resilience offices or interagency bodies
CA, CO, CT, HI, LA, MA, MD, MN, ME, NC, NJ, OR, RI, WA, WI

NATURAL AND WORKING LANDS

15 NWL in state GHG inventories
CA, CO, DE, HI, ME, MD, MA, MN, NV, NM, NJ, NC, VT, WA, WI

11 NWL conservation or sequestration goals
CA, CO, DE, HI, IL, MA, MD, NM, OR, WA, WI

11 Healthy soils legislation
CA, CO, CT, HI, IL, ME, MD, NM, NY, VT, WA

CARBON MARKETS & VALUING CLIMATE DAMAGES

17 Social cost of greenhouse gases in policymaking
CA, CO, CT, DE, IL, MA, ME, MD, MN, NC, NV, NJ, NY, OR, PA, WA, WI

12 Carbon market participation
CA, CT, DE, ME, MD, MA, NJ, NY, PA, RI, VT, WA

CLIMATE FINANCE

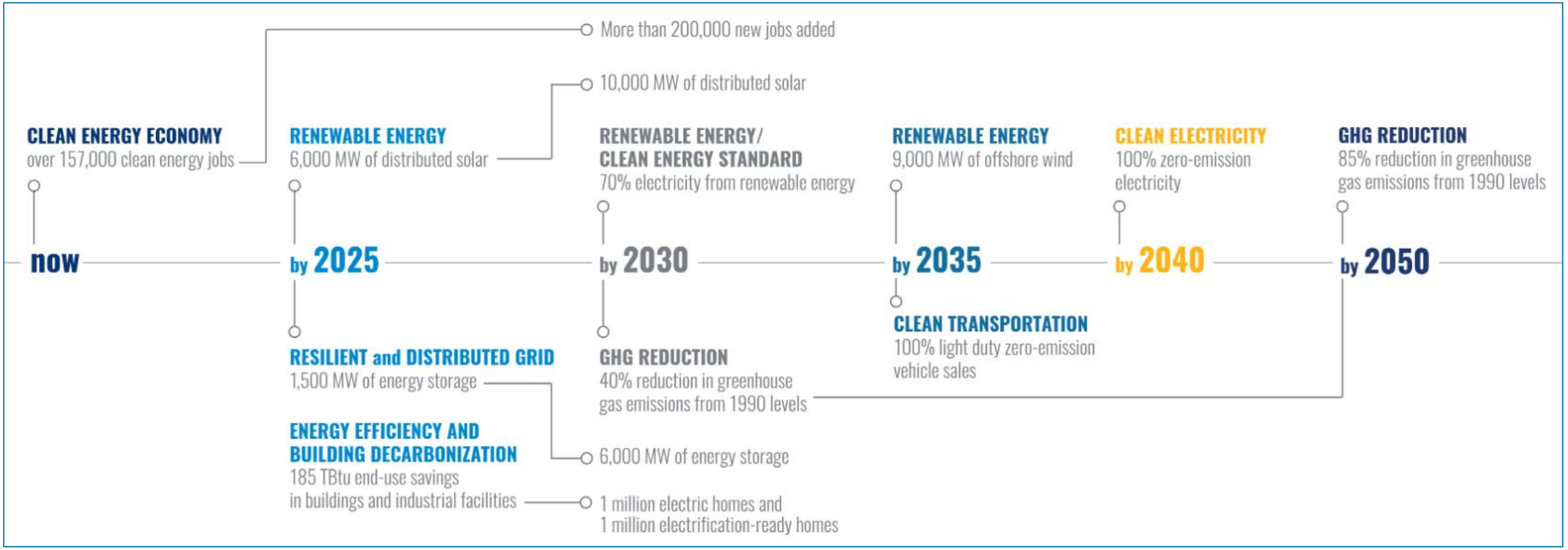
16 Green and/or resilient infrastructure banks
CA, CO, CT, DE, HI, IL, LA, ME, MD, MI, MN, NC, NV, NY, PA, RI

www.USClimateAlliance.org

Last updated September 2022

NYS Climate Leadership and Community Protection Act (CLCPA) – 2019

Reduce NYS economy-wide greenhouse gas emissions 40 percent by 2030 and no less than 85 percent by 2050 from 1990 levels.



GHG Emissions and Reductions

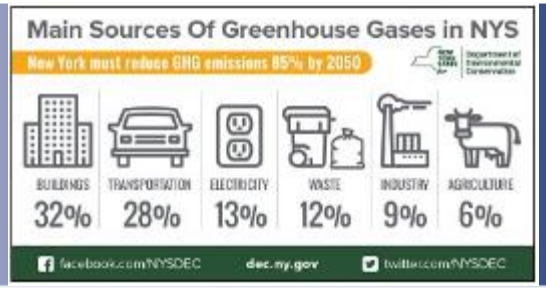
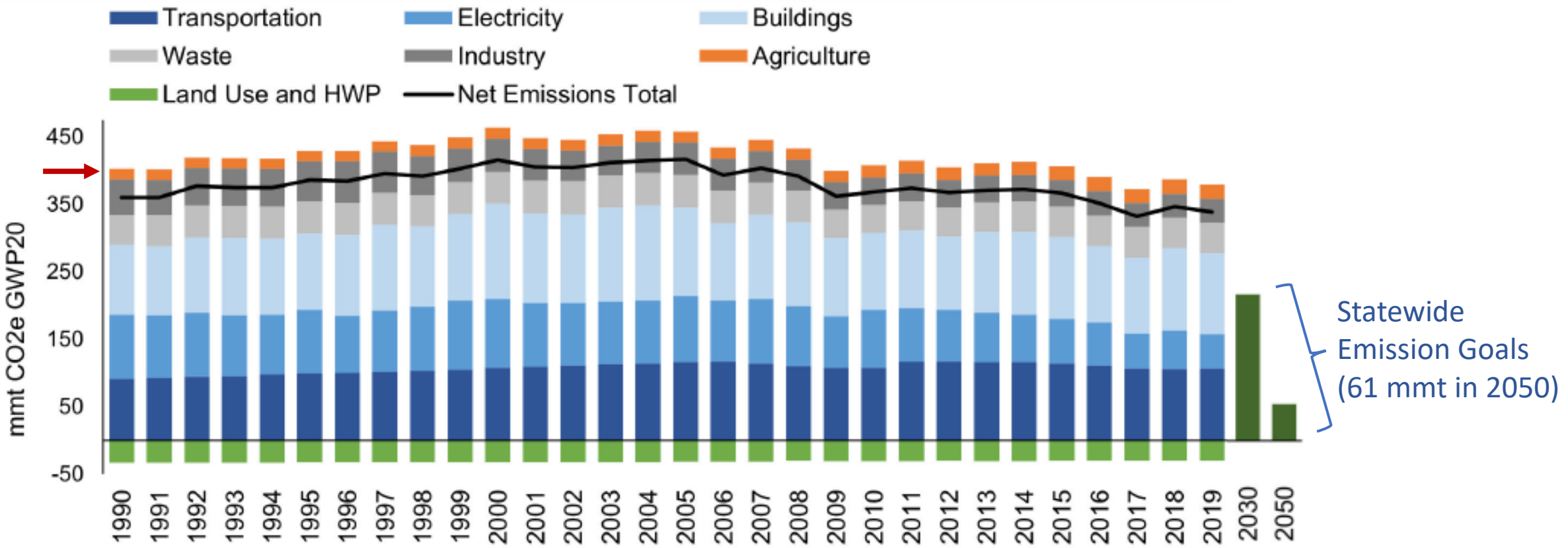


Figure ES.3: NYS Statewide Emissions by Economic Sector, 1990-2019 (mmt CO_2e GWP20)



2021 Statewide GHG Emissions Report: www.dec.ny.gov/energy/99223.html

CLCPA Scoping Plan

Driven by the Climate Act.

> The Climate Act requires the CAC to develop a Scoping Plan regarding how the state can meet statutory emission limits.

> Public and CAC feedback along with further analyses has informed the final Scoping Plan (started in 2020; finalized in 2022)

The Scoping Plan is multi-sectoral, holistic, and grounded in scenario modeling.

> The Scoping Plan is informed by recommendations from sector Advisory Panels, the Just Transition Working Group, and the Climate Justice Working Group.

> The Scoping Plan considers climate justice, job creation, cost reductions, public health benefits, and minimizing emission leakage.

> The recommendations formed the basis of scenario modeling to show the impact of interacting strategies across sectors.

To review the full Scoping Plan, please visit: https://climate.ny.gov

Climate Action Council

Advisory Panels

- Agriculture and Forestry
- Land Use and Local Government
- Transportation
- Energy Efficiency and Housing
- Energy Intensive and Trade Exposed Industries
- Power Generation
- Waste Management

Working Groups

- Just Transitions
- Climate Justice

Agriculture and Forestry Advisory Panel

Richard Ball, Chair, Commissioner NYS Department of Agriculture and Markets

Peter Innes, NYS Department of Environmental Conservation

Rafael Aponte, Rocky Acres Community Farm

Amanda Barber, Cortland County Soil and Water Conservation District

John Bartow, Empire State Forest Products Association

Michelle Brown, The Nature Conservancy

Tom Gerow, Wagner Lumber Company

Suzanne Hunt, HuntGreen LLC and Hunt Country Vineyard

Peter Lehner, EarthJustice

Samantha Levy, American Farmland Trust

Robert Malmsheimer, SUNY Environmental Science and Forestry

John Noble, Noblehurst Farms

Julie Suarez, Cornell University

Ned Sullivan, Scenic Hudson

Donna Wadsworth, International Paper

Elizabeth Wolters, New York Farm Bureau

Peter Woodbury, Cornell University

Nelson Villarrubia, Trees New York

Catskills

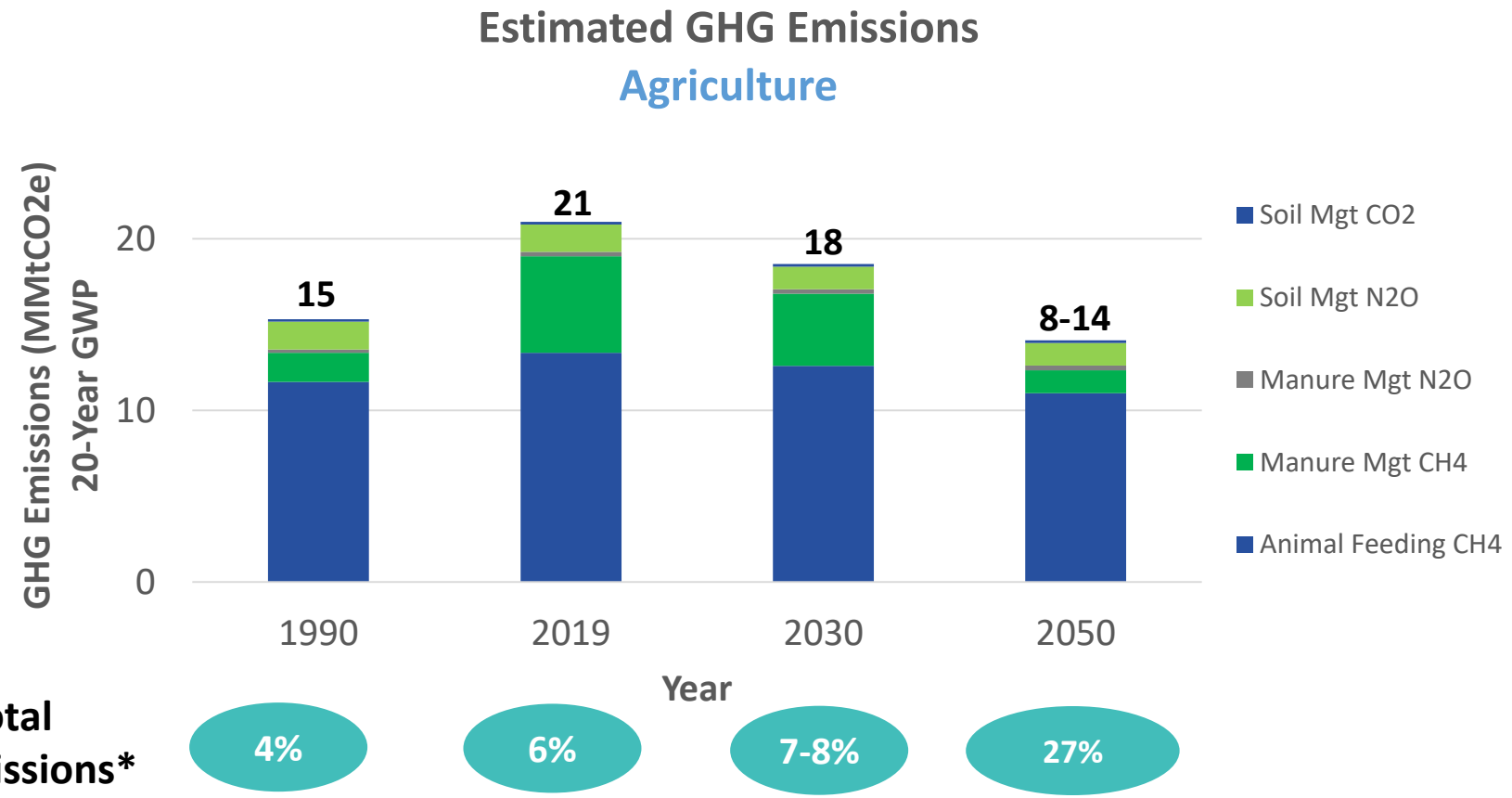
Ag and Forestry Panel Recommended Strategies - Key themes

- Focus on methane and nitrous oxide reduction of farms and increasing carbon sequestration on farmland and forests through Agricultural Environmental Management (AEM).
  - Some emission/sequestration sources require long-term strategies, e.g., trees, soil carbon
- For agriculture, emissions reductions strategies are designed to maintain/improve farm viability and minimize the potential for emission leakage.
  - Emission leakage occurs when businesses leave the state and take their emissions elsewhere outside of NY jurisdiction.
- Continued/expanded need for applied research, guidelines, extension, training, technical assistance (i.e., people), and funding (*and more funding*….private and public sector investment).
- Methods for measurement, monitoring, reporting, and verification (MMRV) of progress.
- Transitions are beneficial to disadvantaged communities, just, and provide health and other co-benefits.
  - Common priority across all sectors.
- Two key technical themes of the panel:
  - Agricultural Emissions Reductions
  - Carbon Sequestration in Forests and on Farms

Agricultural Emission Reduction Broad Strategies

- **Nutrient Management** - Reduce nitrous oxide (N2O) emissions while achieving desired crop yield and quality through continued and expanded nutrient management planning and implementation.
- **Alternative Manure Management** - Reduce methane emissions by implementing practice systems specifically planned and designed for each farm, such as cover and flare systems, anaerobic digester systems, and other innovative systems that collect, capture and combust methane from manure storages or prevent methane production from manure storage.
- **Precision Feeding and Herd Management** - Reduce methane and nitrous oxide emissions while achieving desired ruminant growth and lactation goals.
  - Strategy acknowledges that additional methane emission reduction may be realized from feed additives developed in the future.

Aggregate GHG Emissions impact of Agriculture



% of Total NY Emissions*

4% | 6% | 7-8% | 27%

*Not including carbon sequestration.

Scope (NYS GHG Inventory):

- Agricultural Emissions: Livestock and Fertilizer (21 MMt CO2e)

Emission Reduction Goals

- 2030: Reduce 15% from current levels
- 2050: Reduce 30% (return to 1990 levels)
  - Strive for additional reduction

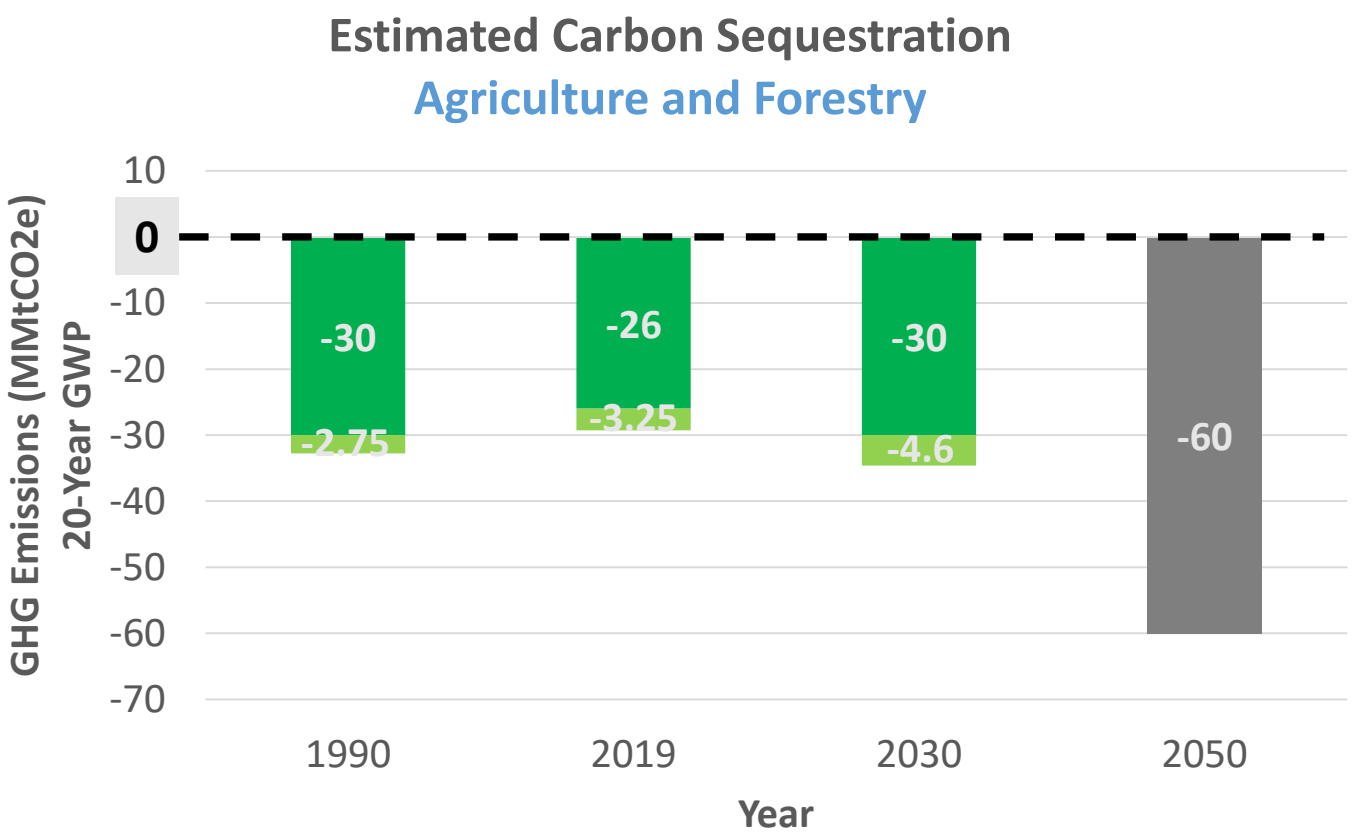
Additional Goals

- Avoid leakage by maintaining agriculture in NYS
- Enhance carbon sequestration on agricultural lands (next slide)

Carbon Sequestration in Forests and on Farms Broad Strategies

- **Avoided Conversion of Forest and Farmland** - Maintain and enhance the state's carbon stocks and carbon sequestration potential through avoided forest and farmland use conversion.
- **Soil Health -** Reduce net GHG emissions and increase carbon sequestration/storage and other environmental benefits through adoption of soil health management practices (e.g., cover/double crops, reduced tillage, perennial crop systems. Also referred to as Regenerative Agricultural Practices).
- **Agroforestry -** Adding trees into areas of agricultural production to reliably increase carbon sequestration and other environmental benefits.
- **Forest Management -** Increase carbon sequestration through improved, sustainable forest management practices. Secure forest regeneration, improving forest health and productivity, and restore degraded forests.
- **Reforestation/Afforestation –** Tree plantings focused on underutilized agricultural lands. Increasing tree density in understocked forests.
- **Climate Focused Bioeconomy -** the portion of an economy that produces sustainable, renewable bio-based feedstocks, rather than fossil fuel-based feedstocks, to produce products that achieve the climate and social justice goals of the CLCPA.

Carbon Sequestration impact of Agriculture and Forestry



Scope (NYS GHG Inventory):

- Forestry and Agroforestry Sequestration (-30MMt)
- Cropland, Grassland, Urban Trees, Harvested Wood Products Sequestration (-2.75MMt)

Carbon Sequestration Goals

- 2030: No Net Loss Forests (= 1990 levels)
- 2050: Further reduce net GHG emissions across all sectors in NYS toward net zero by enhancing carbon sequestration in Agriculture and Forestry

Next Steps - everyone has a role….

- CAC Scoping Plan Finalized (12/19/22)
  - https://climate.ny.gov
  - https://climate.ny.gov/Our-Progress

- Continue implementing and adopting

- Tactical plans for individual Scoping Plan priorities
- Applied research, updated tools and guidelines, and training
- Public sector funding and policy to facilitate larger pool of private sector investment and practice adoption
  - NYS AGM / SWCC, NYSERDA, NYS DEC, USDA, etc.

Funding Programs to Help Advance AEM on Farms

Funding programs to advance AEM on farms

- Locally-led and sponsored by your **Soil & Water Conservation District** to support planning, implementation, and adoption of BMP Systems
  - Funded through the EPF via NYS AGM / NYS Soil and Water Conservation Committee
  - AEM participation is a pre-requisite for cost-share funding
    - **AEM Base Program**
    - **Agricultural Non-Point Source Pollution Abatement and Control Program (AgNPS)**
    - **Climate Resilient Farming (CRF)**
    - **Source Water Buffer Program**
    - **Ecosystem Based Management (EBM) Programs**
    - **State Aid to Districts**

- Other Programs from NYSAGM (Farmland Protection Grants), NYSDEC, USDA-NRCS (EQIP, CSP), USDA-FSA, NYSERDA, Cornell PRO-DAIRY (Dairy Advancement Program), USEPA, and others….

+ Significant, on-going investment by farmers.

Climate Resilient Farming (CRF) Grant Program

- **Launched in 2015 (Rounds 1-6)**
  - **~$20** million awarded
  - **270** farms
  - **~390,000** metric tons of CO2e/yr estimated emissions reduction
    - Includes 15 cover/flare projects to date
- **Three tracks (as of Round 6):**
  1. Manure storage cover and flare systems
  2. Riparian, floodplain, and upland water management systems
  3. Healthy Soils NY

Program Impact

CRF Program Estimate of CO2e/Year Emission Reductions (2015-2022), derived from USDA's COMET Planner and IPCC calculation of methane per unit of livestock at 20-year GWP

CRF Program	Program Round Funding Level	Track 1 (Methane Management) Estimated CO2e/Year (MT) using 20-year GWP of x84	Track 2 (Water Management) Estimated CO2e/Year (MT)	Track 3 (Healthy Soils NY) Estimated CO2e/Year (MT)	Total Estimated CO2e/year (MT)
Round 1	$1,400,000	48,056	40	73	48,200
Round 2	$1,500,000	0	325	111	436
Round 3	$2,800,000	19,665	192	981	20,838
Round 4	$2,300,000	160,906	62	1,082	162,050
Round 5	$4,000,000	87,298	1,058	1,191	89,547
Round 6	$8,000,000	59,691	636	8,168	68,463
Total:	**$20,000,000**	**375,616**	**2,313**	**11,606**	**389,534**

CRF Round 7

- **Round 7**
  - $15 Million available
  - Request for Proposals out in early 2023

Track	Proposed Funding Available
Track 1: Livestock Management: Alternative Waste Management & Precision Feed Management	$5,000,000
Track 2: Adaptation & Resiliency	$6,000,000
Track 3: Healthy Soils NY	$4,000,000

CRF Round 7 and Beyond

CRF Track 1

- **Proposed Expansion Track 1 to Alternative Waste Management & Precision Feed Management**
  - Manure Storage Cover and Flare
  - Solid Separation Equipment
  - Waste Management through Composting
  - Bedding Alternatives to sand for cover and flare preparation
  - Innovative Manure Treatment Technologies
  - Pasture Based Management
  - Compost Bedded Pack
  - Precision Feed Management

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CRF Round 7 and Beyond

CRF Track 2

- **Proposed Expansion Track 2 to Adaptation & Resiliency (emphasis on water management for flood and drought)**
  - Riparian Buffer System
  - Stream Corridor and Shoreline Management System
  - Erosion Control System – Structural
  - Irrigation Water Management System
  - Access Control System
  - Prescribed Rotational Grazing System
  - Integrated Pest Management
  - Weather monitoring systems and tools
  - Green Infrastructure Systems

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CRF Round 7 and Beyond

CRF Track 3

- **Soil Health (and Agroforestry)**
  - Cover crops, conservation tillage, structural soil conservation practices, conservation crop rotations, buffers, etc.
  - Outreach eligible expense
  - Equipment eligible expense
    - e.g., draghose systems associated with improved NM and SH
- **Proposed example of an agroforestry system**
  - Tree/shrub Establishment and Preparation (NRCS 612 and NRCS 660)
  - Structures for Wildlife (NRCS 649)
  - Conservation Cover (NRCS 327)
  - Critical Area Planting (NRCS 342)
  - Alleycropping (NRCS 311)

CRF Round 7 and Beyond

Beyond Round 7

- Carbon Farm Plans – cost-share for planning
- Increased funding with Climate Smart Commodities grant (and other funding sources as available)
- Improved ways to incentivize implementation, operation, and maintenance
- Better quantification tools

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Thank you

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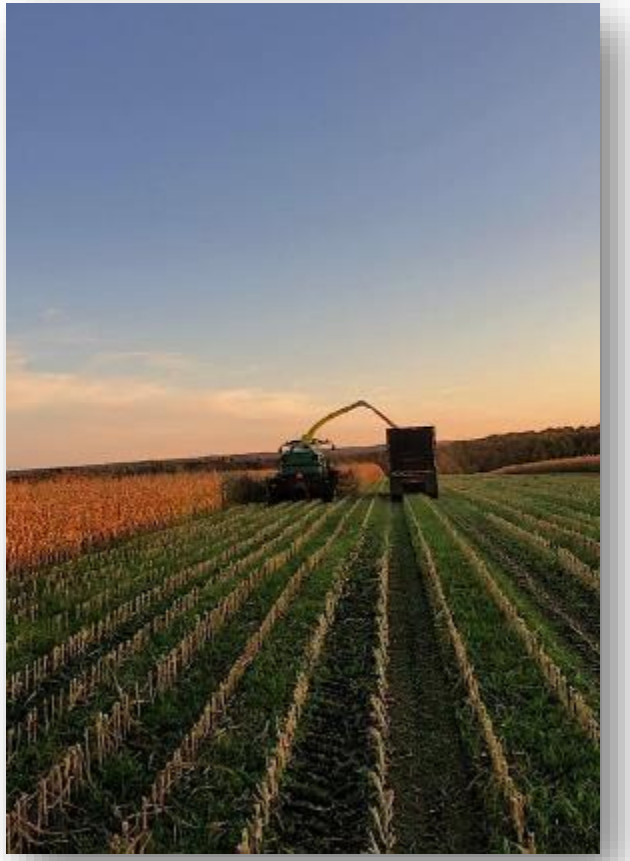

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https://agriculture.ny.gov/soil-and-water/soil-water-conservation-committee