

# Developing New Hampshire's Comprehensive Climate Action Plan

# Technical Input Session 5: Agriculture and Natural/Working Lands

# Summary Report by NH Listens, May 2025

# **Purpose and Background**

In August 2023, New Hampshire was granted federal funding to update New Hampshire's Climate Action Plan to reduce emissions of greenhouse gases. The four-year program runs from 2023–2027. Objectives of the plan are to:

- Reduce greenhouse gas emissions while supporting the creation of good jobs and lowering energy costs for families.
- Empower community-driven solutions in neighborhoods overburdened from pollution and impacts of climate change by directly seeking input from those communities.
- Deliver cleaner air by reducing harmful air pollution in places where people live, work, play, and go to school.

These plans are part of the Climate Pollution Reduction Grant (CPRG) funding from the U.S. Environmental Protection Agency. **They lead to additional implementation funding that will support community-engaged projects** with an effort to focus on investments in Low Income Disadvantaged Communities (LIDAC) across the economic sectors of air pollution and greenhouse gas reductions.

New Hampshire Listens is working on behalf of the NH Department of Environmental Services (NHDES) CPRG team to design and facilitate community engagement—an essential component of NH's Priority (PCAP) and Comprehensive Climate Action Plans (CCAP).

Between January 2025 and May 2025, NH Listens is hosting a series of conversations, or Technical Input Sessions, for people to learn, listen, and inform a CCAP for the state. The CCAP allows NHDES to identify strategies and measures to reduce greenhouse gas (GHG) emissions in the near- and long-term. The CCAP must touch on all significant GHG sources and sinks across economic sectors present in New Hampshire.

Technical Input Sessions provide opportunities for NH agencies, outside experts, stakeholders, and the public to discuss and vet potential GHG emission reduction measures for inclusion in the CCAP. The five Technical Input Session conversations are organized by these economic sectors defined by the Environmental Protection Agency (EPA):

• Transportation

• Commercial and Residential Buildings



- Electrical Generation and/or Use
- Agriculture and Natural/Working Lands
- Industry and Waste/Materials Management

# **Goals, Facilitation, and Participation**

On May 15, 2025, NH Listens and NHDES held the fifth technical input session for the Agriculture and Natural/Working Lands sectors. The purpose of this gathering was to:

- Provide context about New Hampshire's greenhouse gas inventory.
- Draft preliminary strategies to reduce GHG emissions in the sector.
- Share models for analyzing measures.

In addition, NHDES engaged participants in discussions about their experience in the sector that could inform implementation of measures, opportunities for cross-collaboration, geographic opportunities, and barriers to implementation.

During the workshops, NH Listens helped keep time, facilitated group discussion, and made sure everyone who attended had a chance to contribute. **9 people attended the session, 21 people registered**. Collectively, they named key considerations and priorities relevant to CCAP planning in the Agriculture and Natural/Working Lands sectors.

### **Focus Areas**

The focus areas for this session were:

- Renewable Energy Generation and Storage Systems at Agricultural Operations
- Sustainable Restoration and/or Redevelopment of Brownfields Sites

NHDES provided relevant information through slides and corresponding guidance documents to inform participants on the measures' alignments with EPA's required elements. **Participants reviewed these measures and provided feedback on their appropriateness; they also suggested additional actions to ensure a comprehensive and effective implementation approach (***find agendas and guidance documents on the NHDES CCAP landing page***). The potential measures prepared were derived from previous meetings, including individual interviews with statewide providers, cross-sector stakeholder conversations, and community conversations.** 

# **Themes and Key Points**

During the technical input sessions, participants provided information and resources related to their experience in the sector. See **Resources** for the full list of organizations, programs, reports, and case studies shared by participants in this session.



# Strategy 1: Optimize Agricultural Operations for Energy Efficiency and Sustainable Practices

### **Measure 1.1: Expand On-site Renewable Energy Generation**

- Participants noted that many small farms and towns lack the upfront capital needed to pursue clean or alternative energy projects on agricultural land. While funding may be available for large-scale solar installations, smaller-scale agricultural projects often miss out on available resources.
- The NH Department of Energy's <u>Renewable Energy Fund</u> offers various rebates that could support farm-based projects; sector-specific eligibility is unclear and subject to legislative action.
- Other additional potential funding sources include Natural Resource Grants and LCHIP (Land and Community Heritage Investment Program), which specifically reference farmland and agriculture as priority areas.

## Measure 1.2. Use Methane Capture and Anaerobic Digestion for On-Site Production of Biogas

- Participants discussed a local farm that attempted to produce biogas by dehydrating manure and using waste heat to warm barn offices but faced ongoing technical difficulties.
- Small-scale systems face challenges with repairs and maintenance, particularly when specialized technology breaks down.
- Available funding for anaerobic digestion projects is mostly federal, which adds complexity and uncertainty for small farms.
- Some promising farm sites are ineligible for <u>Natural Resources Conservation Service</u> (NRCS) funding due to ownership status (e.g., government-owned land).
- Alternative Funding Options
  - Natural resource grants through collaborators, like the <u>NH Land and Community</u> <u>Heritage Investment Program</u>, could support agricultural operations.
  - Corporate partnerships, such as through the <u>John Deere Foundation</u>, could support larger-scale or multi-farm proposals.
  - Crowdfunding models, like <u>GoFundMe</u>, take a community-driven approach.
- Several NH farms have partnered with NRCS or independently implemented compost systems, providing a community composting model (e.g., Meadowstone in Bethlehem and Winter Street Farm in Claremont).
- Composting systems can offset waste disposal costs for residents and provide farms with consistent access to high-quality compost.

## Measure 1.3. Adopt On-site Energy Storage Systems

- More research is needed to assess the feasibility and practicality of on-site energy storage systems in agricultural settings.
- Electric tractors could offer added value if designed or adapted to serve as backup power sources during outages.



# Strategy 2: Sustainable Restoration and Redevelopment of Brownfields Sites

### Measure 2.1. Redevelopment as Solar Projects +/- Battery Storage

- Organizations like ReVision Energy may offer case studies or models of successful brownfield-to-solar redevelopments in New Hampshire and surrounding states.
- Agencies such as Forests and Lands are exploring funding and development pathways for solar installations on state-run nursery sites.
- Participants discussed national labs doing relevant research in the area of solar and battery storage.
  - <u>National Renewable Energy Laboratory</u> provides research, tools, and publications on solar, battery storage, and bioenergy.
  - <u>Pacific Northwest National Laboratory</u> offers technical insight into clean energy technologies.
  - <u>Idaho National Laboratory</u> hosts an agriculture-focused division, with potential resources on energy efficiency and innovations, like fortified wood products.

### Measure 2.2. Conversion/Restoration of Sites to Green Spaces, Wetlands, or Urban Forests – Phytoremediation and Carbon Sequestration

- Urban foresters have supported several community projects focused on carbon sequestration through green space restoration; further information will be shared from forestry contacts.
- A local organization secured an <u>EPA Brownfields Clean-Up Grant</u> to support the transformation of the Sinclair Lot in Bethlehem into a revitalized community space, illustrating a successful model of brownfields reuse.

# Measure 2.3. Redevelopment With Energy Efficient Residential/Commercial Buildings, Transportation Hubs, or Recreation Spaces with EV Charging Infrastructure

- Participants raised the importance of expanding the definition of public charging stations, beyond just electric vehicles, to also include support for e-bikes, mobility devices, phones, and medical equipment (such as oxygen concentrators).
- Additionally, there is a gap in inclusive infrastructure design that accommodates a wider range of users and mobility needs in redevelopment projects.

# Other Considerations for Clean Energy and Brownfields Use

### **Alternative Energy & Carbon Sequestration**

- Questions were raised about whether battery energy storage aligns with climate goals, given the environmental impact of battery production.
- There's a common concern that farms must choose between agricultural production and solar development, but agrivoltaics allow for both. Some projects that utilize agrivoltaics include:



- Van Berksum Nursery in Deerfield, NH, uses ground-mounted solar panels placed between crop rows.
- Blasty Bough Brewing in Epsom, NH, employs sheep to graze under solar arrays, which also provide shade—an example of solar grazing.
- Some farms in Massachusetts loan herds for solar grazing, though it's unclear if similar practices exist in New Hampshire.
- The New Hampshire Division of Forests and Lands maintains a <u>Carbon Forest Registry</u> to track forest-related carbon and climate data. The registry is periodically updated and available online for public and stakeholder access.
- A biochar research project is underway at a farm in Durham, NH.

## **Brownfields**

- Cleaned-up brownfields could be repurposed for carbon sequestration through land restoration or for renewable energy projects (e.g., solar parks). Some success stories include:
  - A brownfield was transformed into a public parking lot featuring the town's first EV chargers in Walpole, NH.
  - An abandoned factory may be a candidate for solar redevelopment, pending a brownfields assessment, in Campton, NH.
- NHDES administers federal funding to support cleanup and redevelopment of contaminated sites. For brownfields redevelopment projects, the NHDES Brownfields Program is the recommended first point of contact.
- It is uncertain whether regional planning entities like the North Country Council are currently active in this space.

# **Climate Action in New Hampshire**

Across the five technical input sessions hosted in May, participants identified the following programs and projects as being instances of great climate action work being done in New Hampshire and the greater New England Region.

Transportation	The <u>Volkswagen Mitigation Trust has been utilized as a funding</u> <u>mechanism for electric vehicle charging infrastructure</u> development in New Hampshire.
Buildings	The town of Peterborough, NH, has <u>adopted heat pump policies to</u> <u>encourage building electrification</u> .
Electricity Generation	<u>Community Power Coalition of New Hampshire's non-profit alterna-</u> <u>tive to for-profit utilities has helped drive down electricity rates</u> <u>statewide</u> , while offering clean energy-focused portfolios.



Agriculture and Natural	In Walpole, NH, <u>a local brownfield was transformed into a public</u>
& Working Lands	<u>parking lot</u> —featuring the town's first EV chargers.
Industry and Waste & Materials Management	New Hampshire Network's Plastics Working Group launched a pilot program to reduce the use of single-use plastic.

## Resources

### **Participant-Shared Resources**

#### Resources

- BRI Secures EPA Brownfields Clean-Up Grant for Sinclair Lot. *Bethlehem Reimagined*. <u>https://bethlehemreimagined.org/bri-secures-epa-brownfields-clean-up-grant-for-</u> <u>sinclair-lot/#:~:text=BRI%20Development%2C%20LLC%2C%20a%20wholly-</u> <u>owned%20subsidiary%20of%20Bethlehem,Bethlehem%2C%20the%20site%20of%20the</u> %20former%20Sinclair%20Hotel
- Empowering Communities. *The John Deere Foundation*. <u>https://about.deere.com/en-us/our-company-and-purpose/empowering-communities</u>

Natural Resource Grant. *New Hampshire Land and Community Heritage Investment Program.* <u>https://lchip.org/index.php/about-us/about-lchip</u>

### **Organizations**

National Renewable Energy Laboratory. https://www.nrel.gov/about

Pacific Northwest National Laboratory. <a href="https://www.pnnl.gov/">https://www.pnnl.gov/</a>

ReVision Energy. https://www.revisionenergy.com/

## **NH Listens & NH Department of Environmental Services Contacts**

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Forest Carbon & Climate Change. *New Hampshire Forest and Lands.* <u>https://www.nhdfl.dncr.nh.gov/forest-carbon-climate-change</u>



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