Existing Greenhouse Gas Emissions Reduction Projects and Programs Analysis

A Resource to Inform the Engagement and Development of New Hampshire's Comprehensive Climate Action Plan

This resource was drafted by New Hampshire Listens to share the analyses used to support the Engagement Processes that in turn support the development of the Comprehensive Climate Action Plan (CCAP), a deliverable for the U.S. Environmental Protection Agency (EPA)'s Climate Pollution Reduction Grant (CPRG) program.

Note: This report is based on analysis of projects and programs identified as of June 2025. Project details, funding status, and implementation timelines are subject to change. The examples included are illustrative and not comprehensive of all GHG emissions reduction efforts in New Hampshire or the surrounding region. The inclusion of any specific measure or strategy in this report does not indicate endorsement by the New Hampshire Department of Environmental Services (NHDES), nor does it reflect what will or will not be included in the final CCAP. This work is not reflective of the views of the NHDES Climate Pollution Reduction Grant (CPRG) team, NHDES as an agency, or the EPA CPRG program officer. For the most current information on specific initiatives, readers should refer to the original sources or contact the administering organizations directly. For more information about the Existing Greenhouse Gas Emissions Reduction Projects and Programs Inventory, readers should contact the NHDES CPRG team at cprg@des.nh.gov.

Note about Engagement: The EPA has made clear that meaningful community engagement is essential for this climate action planning process and accessing funding for the implementation grants that follow (i.e., support for local ideas, policies, and programs to reduce pollution and build more equitable and resilient communities). Visit the Climate Pollution Reduction Grants webpage for additional information.

New Hampshire Listens is a civic engagement initiative nestled in the Carsey School of Public Policy's Center for Engaged Communities at the University of New Hampshire (UNH) – www.nhlistens.org. If you have any questions about this resource, contact: Jo.Field@unh.edu and Carrie.Portrie@unh.edu.

Background

The Existing Greenhouse Gas Emissions Reduction Projects and Programs Inventory is a comprehensive inventory of existing projects and programs in and around New Hampshire that contribute to greenhouse gas (GHG) emissions reductions. The purpose of creating this inventory was for NHDES to identify potential measures that could be included in the New Hampshire Comprehensive Climate Action Plan (CCAP), to significantly reduce GHG emissions within the state. This work was completed in May 2025 by the NHDES Climate Pollution Reduction Grant (CPRG) team, in partnership with New Hampshire Listens.
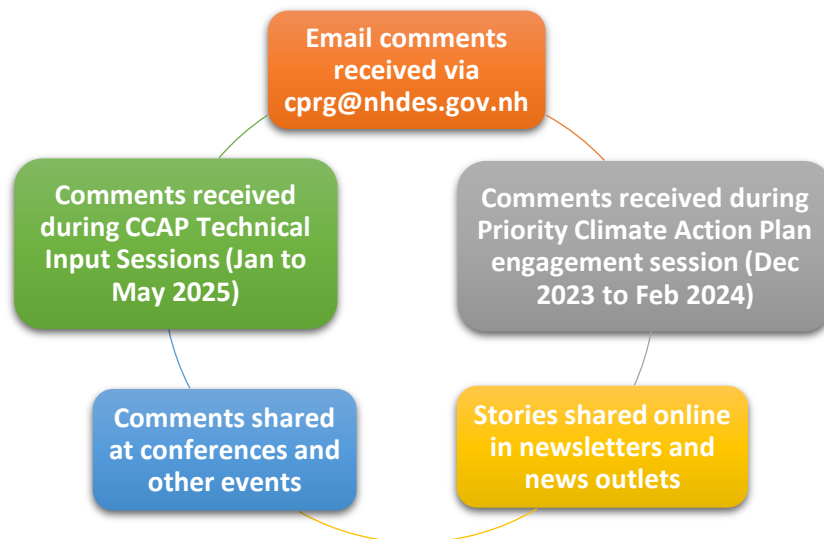
Purpose

This report summarizes the development, findings, and outcomes of the Existing GHG Emissions Reduction Projects and Programs Inventory. It is intended to inform the development of the CCAP and to inform the work of key stakeholders across the state to aid broader GHG emissions reduction efforts in New Hampshire.

Process

The inventory was developed through an iterative and collaborative process, drawing on extensive public and stakeholder engagement. In partnership with New Hampshire Listens, the NHDES CPRG team compiled example stories shared directly by stakeholders and community members, or that surfaced through broader conversations. Several mechanisms were used to gather stories:

- Email comments received via cprg@nhdes.gov.nh
- Comments received during Priority Climate Action Plan engagement session (Dec 2023 to Feb 2024)
- Stories shared online in newsletters and news outlets
- Comments shared at conferences and other events
- Comments received during CCAP Technical Input Sessions (Jan to May 2025)

The goal was to document what is already being implemented and successfully contributing to GHG emissions reductions in and around New Hampshire. This process allowed the NHDES team to gather concrete examples of measures that could be considered for inclusion in the CCAP. The inventory also helped to identify existing funding mechanisms, key implementation organizations, and implementation timelines of potential measures.
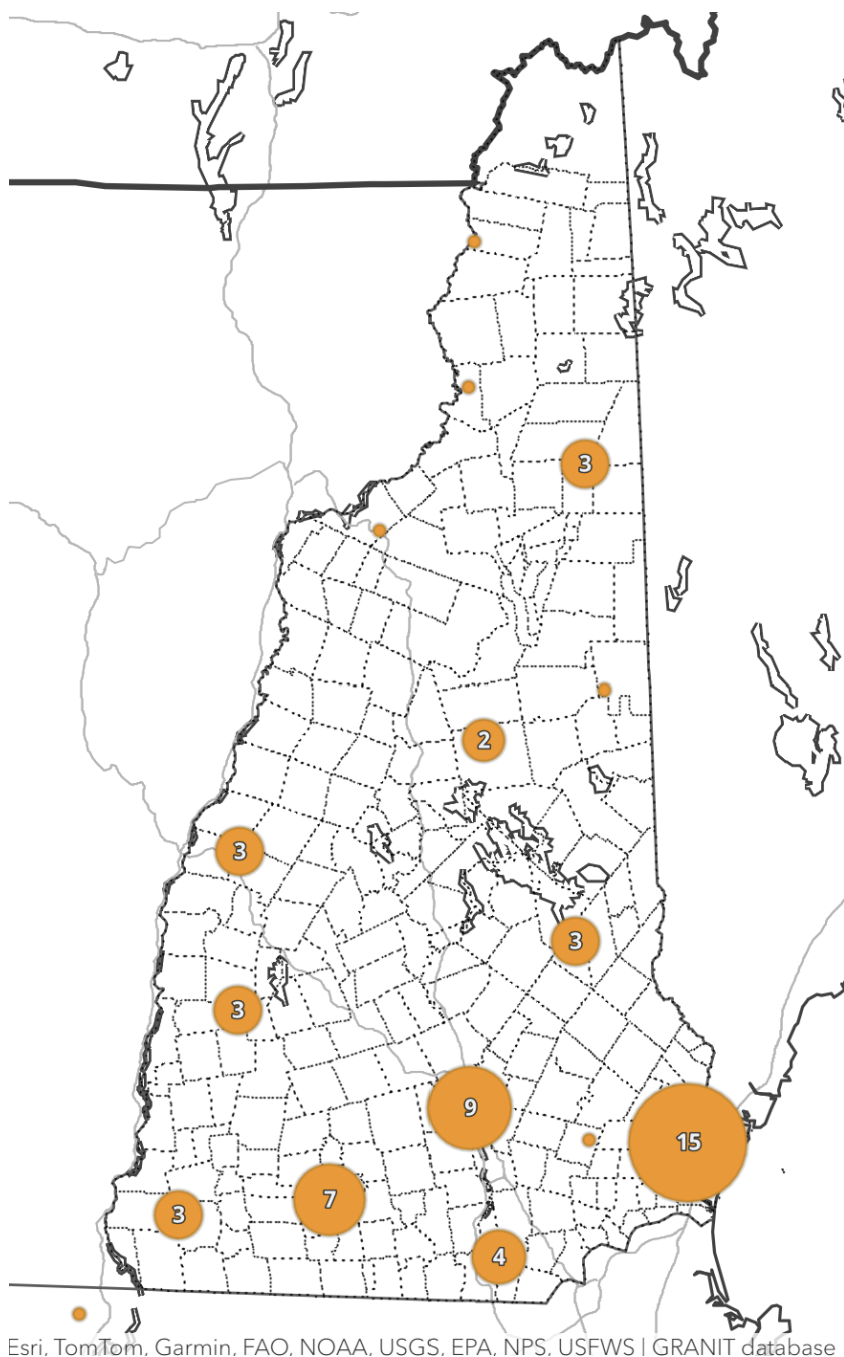
Geographic Representation

Broad Impacts

Of the 123 stories, 28 had impacts that were statewide across New Hampshire. 13 had impacts outside of New Hampshire: 5 stories were from Maine, 2 from Vermont, 3 from Massachusetts, and 3 spanned the New England region.

Programs

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS | GRANIT database
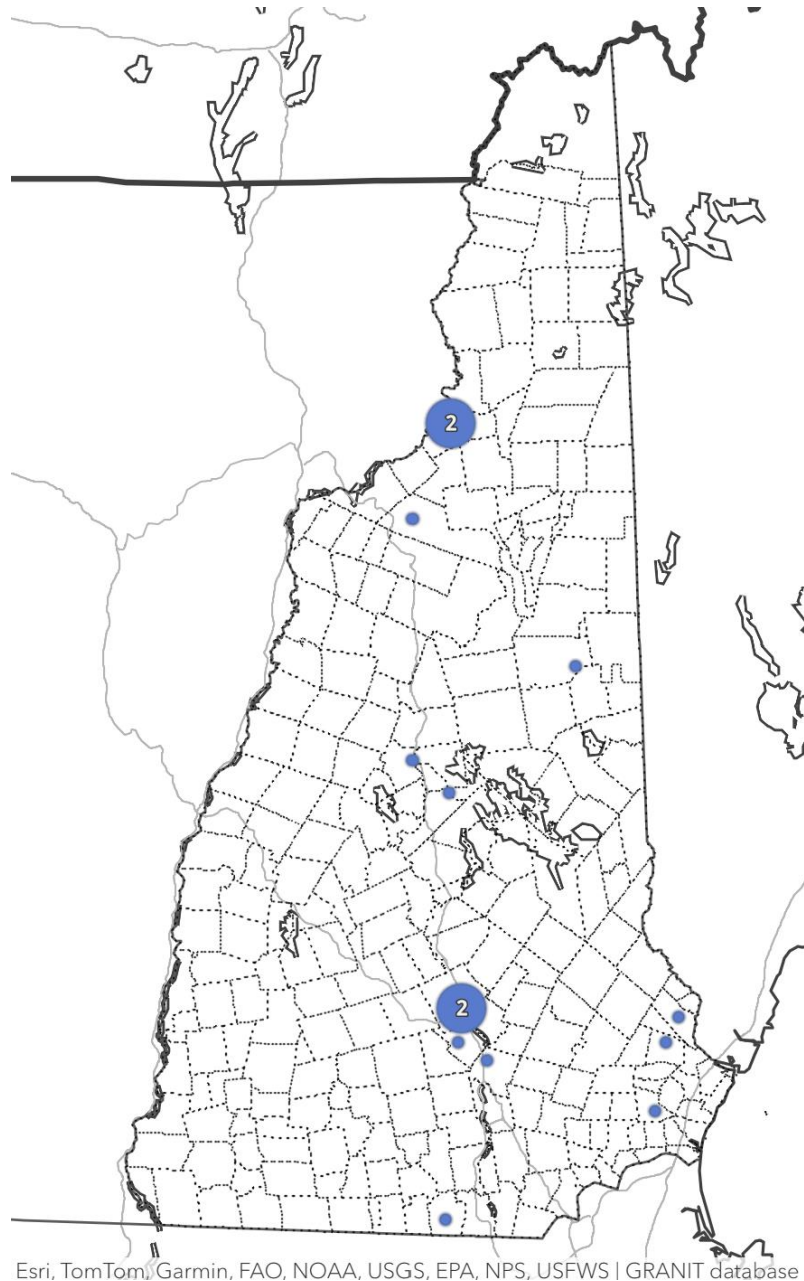
Figure 1: Map of implemented programs that were reviewed by the CPRG team and included in the Existing GHG Emissions Reduction Programs and Projects Inventory. The clusters represent the number of projects identified from the geographical area covered.

Figure 2: Map of implemented projects that were reviewed by the CPRG team and included in the Existing GHG Emissions Reduction Programs and Projects Inventory. The clusters represent the number of projects identified from the geographical area covered.

Findings

In total, 123 examples of successful GHG emissions reductions across New Hampshire and the broader New England region were identified in the inventory. 40 programs, 68 projects, and 18 policies were identified.

Transportation Sector

Of the 123 stories, 23 are related to the transportation sector. Many related to electric vehicle purchases, expansion of electric vehicle charging infrastructure, expansion of rail trails, and public transit systems.

Example Program

The COAST bus service, a fixed-route bus system located in the Seacoast region, contributed $25.89 million in economic benefits to the region compared to an FY2019 operating budget of $5.98 million. This represents an economic return on investment of over $4.30 for every $1.00 invested in the system.

Example Project

A new truck stop in Raymond, New Hampshire, will feature electrified parking spaces equipped with plug-in power pedestals to reduce truck idling and air pollution. Funded by the EPA and the state's Volkswagen Environmental Mitigation Trust Fund, the project aims to cut harmful emissions and improve public health. This initiative is part of the New Hampshire State Clean Diesel Program, marking the state's first truck stop electrification effort.

Example Policy

The City of Lebanon has approved amendments to the city's Zoning regulations that will require some electric vehicle charging at new developments. The amendment applies to all off-street vehicle parking in all zoning districts, and creates requirements for EV-installed, EV-ready, and EV-capable off-street vehicle parking spaces across three use categories: one- and two-family dwellings, multi-family dwellings, and non-residential.

Buildings Sector

21 of the 123 stories included in the inventory related to commercial and residential buildings. These included stories of building weatherization and energy efficiency upgrades.

Example Program

Exeter, New Hampshire, will leverage funding from the NHSaves Weatherization Program to make energy efficiency upgrades and lower bills in 100 low-income households located in manufactured housing parks. This project has the potential to reduce energy burdens from heating fuel usage by 31% for households in a U.S. Department of Energy-designated Economic and Climate Justice community.

Example Project

A project (one of three nationwide) to replace fossil-fuel heating systems with cold-climate heat pumps in 200 buildings in Peterborough and Harrisville won a $700,000 Energy Efficiency and Conservation Block Grant (EECBG) from the U.S. Department of Energy. The project will move the towns toward being 100 percent renewable energy powered by 2050.

Electricity Generation and Use Sector

39 of the 123 stories included in the inventory related to the electricity generation and use sector. Example stories include community power programs, solar array projects, and conversion of fossil fuel plants into renewable energy parks.

Example Program

New Hampshire's low-income community solar program is set to launch, aiming to make solar energy accessible to underserved households. The initiative will leverage partnerships with organizations like the New Hampshire Community Loan Fund and Housing Finance Authority to install solar arrays on low-income multifamily housing and public housing properties. Projects must ensure that at least 75% of net revenues benefit low-income participants, with households expected to save a minimum of 20% on utility bills.

Example Project

A former landfill in Manchester, New Hampshire, has been transformed into a solar array, generating renewable energy and repurposing previously unusable land. The Manchester Landfill located at 500 Dunbarton Road had been capped in 1999 and lay dormant for major development for more than 20 years.

Example Policy

In 2018, the City of Concord adopted a 100% renewable energy goal by unanimous vote of the City Council. The City committed to the following community-wide goals: 100% of electricity consumed in Concord will come from renewable energy sources by 2030; 100% of thermal energy (heating and cooling) consumed in Concord will come from renewable energy sources by 2050; and 100% of transportation in Concord will be clean transportation by 2050.

Agriculture, Natural and Working Lands Sectors

20 of the 123 stories included in the inventory related to the agriculture, natural and working lands sectors. Example stories include large-scale conservation easements, tree planting projects, and programs to support farmers.

Example Program

A New Hampshire schoolyard tree planting program expanded after a successful first year. Following the successful planting of 43 trees at 18 schools last year, the Schoolyard Canopy Enhancement Program is gearing up for another round of tree plantings in 2025. Funded by the U.S. Forest Service and run in partnership with UNH Cooperative Extension, the program continues to provide schools with free trees while inspiring students to connect with nature. Applications

were open until March 7, 2025, giving more schools the opportunity to enhance their landscapes, engage in hands-on learning, and create lasting green spaces for future generations.

Example Project

Gather, an anti-hunger nonprofit organization, has spearheaded the construction of raised garden beds around the Seacoast to provide fresh produce for residents dealing with food insecurity. Some gardens are built and maintained by Gather, while others are maintained by local groups. At all of these gardens, volunteers weed, water, and harvest the produce and bring it back to either the Gather pantry or cooking program.

Industry and Waste Management Sectors

22 of the 123 stories included in the inventory related to the industry and waste management sectors. Example stories include food waste diversion programs, innovations in recycling technologies, and reducing emissions at waste management facilities.

Example Project – Industry

Ambix Manufacturing, a small NH-based business, shared its journey toward sustainability and renewable energy adoption during a hearing with the Small Business and Entrepreneurship Committee. Faced with significant electricity cost increases, Ambix turned to government programs like the U.S. Department of Agriculture's Rural Energy for America Program to fund a solar panel system, which now offsets 55–60% of their energy consumption and feeds power back to the grid. By leveraging state and federal support, Ambix has not only maintained operations amidst global competition but also enhanced its environmental stewardship through renewable energy and sustainable practices.

Example Program – Waste Management

Bow's composting program, launched last July, has collected over 15,000 pounds of organic waste but is not yet financially self-sustaining, with participation leveling off. The town works with Renewal Garden and Compost, and while it offsets 57% of its costs by reducing waste sent to incinerators, it needs higher participation to break even. In addition to composting, Bow has expanded its sustainability efforts through single-stream recycling and partnerships like NexTrex for plastic film, making steady progress toward environmental goals despite limited financial gains.

Example Project – Waste Management

Through New Hampshire the Beautiful, Inc. Awards Recycling Equipment Grants, the town of Greenfield was awarded $1,540 toward the purchase of two storage containers. Keeping recyclable materials clean and dry is key to obtaining the best market pricing and higher revenues. These new containers store recyclables, such as cardboard and plastics, to keep them dry and secure until the town has enough bales to send to market.

Economic Impact Examples

Demonstrated Savings

- **Community Power Savings:** Through Oct. 31, 2024, Dover Community Power has saved customers in the City of Dover $2,053,000 since launching in October 2023, corresponding to supplying 91,500 megawatt-hours of energy during this period.
- **Energy Cost Savings:** In partnership with Affinity LED Lighting, the City of Claremont, New Hampshire, converted approximately 1,000 streetlights and 50 decorative lights to LED lights, saving the city $73,000 annually.
- **Returns on Public Transit Investments:** The COAST bus service, a fixed-route bus system in the Seacoast, contributed $25.89 million to the region's economy compared to an FY2019 operating budget of $5.98 million. This represents an economic return on investment of over $4.30 for every $1.00 invested.

Revenue Generation

- **Local businesses:** Blasty Bough, a brewery in Epsom, installed a 182 solar panel array, with assistance from a USDA Rural Energy Assistance Program grant. The ground mount array produces 800 to 1,000 kilowatt-hours (kWh) more than the brewery needs each month, creating a steady income stream for the business.

Innovation Examples

Cutting-Edge Technologies

- **Vehicle-to-Grid (V2G):** Plymouth State University launched a V2G pilot program, using two Nissan Leaf electric vehicles with bi-directional charging capabilities. The EVs can be charged and can also have the energy from their batteries discharged back into the grid.
- **Iron-Air Battery Storage:** Form Energy plans to install its novel iron-air batteries at the site of a former paper and pulp mill in Lincoln, Maine. The project would provide 8,500 MWh to the grid, while offering a sustainable and cost-effective alternative to lithium-ion batteries.
- **Geothermal Integration:** Glen House Hotel in the Mount Washington Valley has a closed loop geothermal system of thirty 500-foot wells used to heat and cool rooms throughout the hotel.
- **Waste-to-Energy:** UNH's ECOLine project pipes enriched and purified gas from Waste Management's landfill in Rochester to UNH's Durham campus. This methane is used to fuel the university's cogeneration plant, which provides electricity and heat for UNH's buildings.

Outcomes

The Existing GHG Emissions Reduction Projects and Programs Inventory informed the development of the New Hampshire Comprehensive Climate Action Plan by providing relevant examples of existing efforts, helping to assess feasibility, cost, and implementation timelines for potential measures. It also identified key partners and highlighted ongoing initiatives, challenges, and gaps across the state. This inventory serves as a practical resource for agencies and stakeholders supporting GHG emissions reduction efforts in New Hampshire.

Resources

For additional resources and to learn more about the CCAP engagement process, visit the [New Hampshire Listens CCAP Engagement Webpage](#).