

# **OVERCOMING RESISTANCE TO CLIMATE CHANGE ADAPTATION IN RURAL AREAS THROUGH SCALABLE CLIENT-BASED SERVICE LEARNING**

REBECCA MORGENSTERN BRENNER, Cornell University  
rjm478@cornell.edu

MARC ANTHONISEN, New Lebanon Climate Smart Task Force  
mja45@cornell.edu

## **ABSTRACT**

Small towns in rural areas face multiple challenges in responding to climate change. Many communities do not have the resources to research and implement climate actions. Universities can help bridge these gaps using their policy expertise and networks by building capacity through service-learning projects. However, connecting to small towns can be difficult; even if faculty are connected within the communities, advocates for climate change actions may struggle to get community buy-in. This paper looks at a series of successful service-learning project collaborations between Cornell University and New Lebanon, NY. The project helped propel the town to become a regional leader in climate resilience planning while ensuring strong community support. A critical success factor was picking projects and messaging sensitive to the town's broad range of views on climate change.

*Keywords: service learning, climate resilience, higher education, local government, adaptation*

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## **INTRODUCTION**

How do you promote climate change adaptation in a community with multiple perspectives about climate change and climate adaptation? New Lebanon is a rural community in eastern New York State that has found a way to work together and continues to invest in what is best for the town. Smaller communities face unique barriers in adapting to climate change; specifically, they have a challenge in agreeing on what is needed to collaboratively build their resilience (Hamin et al., 2014; Kitchen, 2012; Moser, 2012; Van Boven et al., 2018; Vogel et al., 2017). One successful tactic has been using experiential learning through higher education to build capacity. New Lebanon started a joint project with Cornell University in 2020 focusing on New York State's Climate Smart Communities (CSC) program that has executed multiple service-learning projects and continues to grow (NY Department of Environmental Conservation [DEC], n.d.).

### **Breaking Down Barriers**

The perspective that the cities and counties participating in the CSC program are affluent and exclusive creates additional barriers for communities with multiple views to participate in climate change adaptation actions and gain buy-in from all actors (Allred et al., 2022). This collaborative project using Cornell University students aimed to break down that barrier. The Volume 14, No. 12 (2022)

project, a service-learning partnership, started in 2020 with one graduate student working with a faculty member using a summer internship to build a road map for the town's CSC task force. After that critical first step, the partnership expanded, bringing in more graduate students and included starting a bicycle recycling program, conducting a Climate Vulnerability Assessment, and explicitly responding to drought risk.

In spring 2022, graduate students worked on a project looking at creating green jobs to boost the economy. Today, many residents of New Lebanon and Columbia County work in sectors that will disappear in the green economy. Studies show there will be multiple new green jobs created for every job lost (BW Research Partnership, 2021; International Labour Organization, 2018; Keyser et al, 2022; NYS Comptroller's Office, 2022). This project team identified jobs in new sectors, such as building technology, heat pumps, electric vehicles, wind energy, and solar power, as well as a training roadmap to share with the local high school, vocational school, and community college. The project empowers the local workforce to be more resilient to changes in the economy and have a trained workforce to be more responsive to the potential impacts of climate change.

The service-learning partnership between New Lebanon and Cornell has produced course projects, internships for students, and critical research for town and county decision-makers to build resilience to imminent climate change, as shown in Table 1. This allowed the town to take advantage of funding opportunities, engage the community in discussions about resilience, and create a pathway to adding green jobs to boost the economy and provide opportunities for residents.

In parallel with these service-learning partnerships with Cornell students, the town has initiated practical and deliberately inclusive initiatives, including a Free Store for clothing, a bike recycling program, a Repair Cafe (Laduke, 2021), and community composting. Also, the town government's elected and appointed officials and community members make an effort to meet and collaborate, creating inclusive spaces and conversations to discuss policy and change that will help the town be more economically and climate-resilient.

A town that is climate resilient reflects how well the town can adapt to future stresses, both natural and economic, as climate change accelerates. These actions foster broader conversations about adapting to climate change and finding space for all community members who can contribute to decision-making and dialogue. Furthermore, student research into policy action, actions at the local government, and resources such as the Free Store, have all contributed to reducing vulnerability to climate change and empowering all socioeconomic levels in the town. Thanks partly to this practical and integrated approach, New Lebanon achieved Bronze Certification in the state's CSC program (NY DEC, n.d.) in March 2021, the first town in Columbia County to do so. Based on these initial successes, the town is now expanding its collaboration with other towns in Columbia County and beyond, and the goal of this project is to expand that reach. The County was awarded significant funding from the Capital District Regional Planning Commission (CDRPC) to conduct in-depth climate resilience planning.

## **UNIVERSITY AND DEPARTMENT/PROGRAM BACKGROUND INFORMATION**

This service-learning course is offered through the Masters of Public Administration (MPA) program in the Jeb E. Brooks School of Public Policy at Cornell University. Cornell University is an Ivy League and land-grant institution in Ithaca, New York. The university has both undergraduate and graduate students. At Cornell University, there is a significant push for public engagement and resources such as the Einhorn Center for Community Engagement, which supports public engagement through faculty collaborative education opportunities, networking, and financial support.

## **COURSE DESCRIPTION**

These multiple project collaborations between New Lebanon and Cornell were built through a client-based service-learning course and student internship projects in the MPA program in the Jeb E. Brooks School of Public Policy, Cornell University. This course provides students the opportunity to work with actual clients in government or nonprofit organizations and apply skills built into coursework. Student teams, with faculty supervision and guidance, work directly with real clients in small consulting teams to address a policy or management problem presented by their clients. Faculty members build and invest in these client partnerships to maintain partnerships that produce change.

The course is part of the MPA program and is one way to fulfill some degree requirements, such as practical experience and professional development courses. All MPA students can take the course, but students across the university petition to have the opportunity to take this course; in exceptional cases, advanced undergraduate students are permitted to enroll. The goal is for each student to bring skills, learn skills with the team, and produce meaningful policy and management outcomes for the clients. Once the consulting groups are formed, students then work as a team throughout the semester with defined roles to outline a plan and timeline, conduct a literature review with background empirical research, develop a methodology, and then conduct research, produce outcomes, identify next steps, and finally present findings to the client. The client will anticipate a professional report and a final presentation.

## **COURSE ASSESSMENT**

The course is assessed through rubrics that provide feedback and direct students on building partnerships and providing transdisciplinary perspectives to solve complex socioeconomic and policy problems. Several faculty members have taught this course over time, but each member decides how to manage and teach this course. It became clear that revising and investing in interactive rubrics that provided tiered guidance, adding fundamental project management skill-building components, and conducting reflective peer reviews were critical for successful projects and were demonstrated in this productive collaboration. In this way, the rubrics acted as a pathway to create a service-learning project with practical outcomes with the shared investment by community partners and student learning objectives.

Table 1. Client-Nased Service-Learning Projects Supported by Cornell Students

<b>Service-Learning Project</b>	<b>Input</b>	<b>Policy Impact</b>
Greenhouse gas inventory Composting program Bike Recycling Program (August 2020)	Student summer internship	This kicked off the partnership with a neutral place politically to show CSC as a beneficial program not just to one political side but all residents.
Drought Vulnerability Assessment for New Lebanon (December 2020)	One graduate student Five months	Identified seasonal drought as a key climate risk for the town.
CSC Roadmap for New Lebanon (May 2021)	One graduate student Twelve months	Allowed task force to get up and running quickly in pursuing new climate actions.
Climate Vulnerability Assessment for New Lebanon (June 2021)	Two graduate students Five months	Created a heatmap of most significant climate hazards impacting New Lebanon.
CSC Roadmap for Columbia County (September 2021)	One graduate student Summer internship	Served as successful proof of concept leading to a fulltime climate coordinator being designated by the County
Back-up water supply for New Lebanon Fire Department (November 2021)	One graduate student Five months	Fire department better informed to deal with seasonal drought.
Planting a Better Future, Green Jobs Assessment for the Town of New Lebanon, New York (May 2022)	Four graduate students Five months	Pipeline of green jobs provided to local schools; local community more aware of new jobs related to climate change.
Columbia County, NY, CSC Task Force Roadmap to Bronze (June 2022)	One graduate student Eight months	This was an assessment and investment in expanding the work done at the town level to the County. This exposes several towns to the benefits and process of CSC.

## CONCLUSION

This project provides a model for overcoming resistance to adapting to climate change in rural areas. There is a perspective that the cities and counties participating in CSC are limited to a specific type of community. Is that based on a political or socioeconomic divide, and if so, what are the barriers for divided communities to not only participate in climate change adaptation actions but also gain buy-in by all actors (Nightingale, 2017)? The end goal is to be more inclusive; to build a pathway for input into the process for CSC to make it more feasible for small towns to apply for and be successful with these kinds of climate-forward opportunities. This includes solidifying a method and process to mentor other towns that want to participate but need support and guidance.

Service-learning projects are a pathway to provide input into the process for CSC to make it more feasible for small towns to apply for and be successful with these kinds of climate-forward opportunities. In the past few years, both initiatives in the town, along with these service-learning projects, has allowed the town of New Lebanon, NY, to benefit from climate-resilient opportunities. The town of New Lebanon has launched several recycling, reuse, and repair initiatives that have helped foster productive conversations about climate change adaptation and better prepare for emergency response actions. These efforts have also helped reduce residents' expenses while helping to build skills and create valuable social networks. Informal networks build community resilience, allowing the community to embrace new energy reduction and climate-resilience planning strategies. These strategies have helped a rural community increase its adaptive capacity and resilience to climate change.

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