

TC CPI | Tompkins County Climate Protection Initiative

2022 TCCPI MEMBER ACCOMPLISHMENTS

Alternatives Federal Credit Union

- In 2022 we made 30 solar and energy efficiency loans for a total of \$474,985, a 40% increase as compared to 2021.
- We took part in discussions with the New York Fed's Community Development Unit (Education and Outreach) who are exploring Ithaca's local plans and decarbonization goals, and the programming/policies that support these efforts.
- In 2022, we participated in an entire building energy audit through NYSERDA's "Green Jobs, Green New York" program. We are currently reviewing a range of recommendations that would improve our energy efficiency and further reduce our footprint.
- We installed solar powered lights in our parking lot.
- Our rooftop solar panels continued to provide a substantial part of our electricity during the year.
- Alternatives incentivizes going digital for all member statements. The staff "Green Team" works on improving energy efficiency and reducing waste, including managing composting in the staff lunchroom, maintaining bottle filling stations to reduce single use plastic, encouraging mindfulness regarding use of space heaters, and extra lighting.
- Many AFCU staff have adopted a hybrid home/office work schedule, which has reduced the number of us commuting to work alone in gas fueled cars. Hybrid and remote work schedules for some of our staff have also reduced the overall energy consumption in the building due to fewer lights, small heaters, fans, computers, and other electronics running constantly throughout the day.
- We offer many online services like new account opening, applying for loans and mobile/online banking (including Remote Deposit Capture) to save our members/new potential members from coming to the branch in cars or other modes of transportation.



Center for Community Transportation

The Center for Community Transportation (CCT) envisions a community where travel by shared and active transportation is healthy, safe, affordable, and convenient for all. The CCT's mission-focused services and activities include Ithaca Carshare, Bike Walk Tompkins, Backup Ride Home, and the newly launched Ithaca Bikeshare, emphasizing social equity and environmental sustainability. CCT works with local transportation providers, educators, planners, decision-makers, advocates, and users to fulfill the mission of enhancing transportation access in our community while reducing its negative environmental and economic impacts.

Ithaca Carshare

- As a result of the shifted driving habits of members and higher than average fuel economy, Carshare members saved approximately **28,679** gallons of gasoline and reduced carbon emissions by **261** metric tons.
- An average of 1,559 members shared 30 vehicles and drove 326,923 miles.

- Fleetwide average fuel economy was 35 MPG, 27% higher than the national average for lightweight vehicles.



- Each Chevy Bolt EV saved approximately 381 gallons of gas, compared to the rest of the fleet, along with around \$3,200 in associated fuel costs. Currently, the electricity to charge the EVs is donated by INHS.
- 241 out of 520 new Ithaca Carshare applicants reported they would delay or avoid the purchase of vehicles, while 20 reported they would sell a vehicle.
- In partnership with GO ITHACA, the Easy Access program subsidized memberships for 47 members with low incomes, up from 39 members in 2021, a value of \$456/year for each member.

Bike Walk Tompkins

- Bike Walk Tompkins (BWT) fulfilled its intention to improve and enhance climate-friendly and environmentally sustainable practices in its operations through:
 - Using a new e-bike and 6-foot bike trailer to haul equipment, gear, and supplies
 - Adding ZeroWaste BYO container and composting to its fall StreetsAlive! event
 - Using locally sourced bikes, components, and supplies most of the time
 - Vacated its more distant storage space in favor of a closer one, to reduce car-hauling
- Hosted two Streets Alive! Ithaca festivals.
- Adding an Education Coordinator and Lead Mechanic to its staff, Bike Walk Tompkins grew and developed its offerings, including:
 - Enhancing its Multimodal Mentor program to include regular adult and teen bike skills lessons throughout the summer
 - Expanding and improving its community bike shop offerings to include a year-round, affordable “bike match” program and a fully equipped bike repair space suitable for teaching and open shop hours
- Joined a successful statewide effort to enact legislation enabling upstate localities to lower their speed limit to 25 mph, and established regular monthly meetings with City of Ithaca elected officials and staff on bicycle and pedestrian issues.
- Partnered with city staff to seek major federal carbon reduction funding to fully design BWT’s proposed Better Bike Network for Ithaca, a network of six connected safe bicycling corridors allowing travel to key destinations on the Flats of Ithaca, such as grocery stores and schools.
- Participated regularly in the Tompkins County Transportation Equity Coalition, helping to secure funding for its county-wide Transportation Needs Assessment, intended to illuminate challenges and solutions needed to increase access to transportation for underserved communities in Tompkins County.

Ithaca Bikeshare

- With a pilot of just under 100 ebikes, Ithaca Bikeshare quickly implemented its plan in November and has seen record breaking usage levels ever since. In addition, it has:
 - Completed a successful process to get an MOU in place with the City of Ithaca
 - Taken solid steps to reduce GHG emissions locally, including using a Ford E-Transit van for operations
 - Integrated bikeshare into the Easy Access transportation program
 - Put various funding sources in place for financial stability of the program



Backup Ride Home

- The Backup Ride Home program provides peace of mind for commuters who travel to work without a personal vehicle. Ithaca Carshare’s on-call staff facilitate free alternate transportation home if an original commute plan home becomes impossible.
- In 2022, with a strong partnership with GO ITHACA in place, enrollment doubled to a total of **1,062**. 30 calls were received, and 27 rides were provided, largely serving late shift employees lacking reliable bus access home.

Central New York Rotary

Rotary International made “Support the Environment” its seventh area of focus. This development also supports the other six focus areas:



Rotary International has 1.4 million members in 215 countries and territories. The governing body for the seventh area of focus is the Environmental Sustainability Rotary Action Group (ESRAG) – membership is open to the public.

Rotary is divided into over 500 districts. Our district covers seven counties: Broome, Chenango, Cortland, Delaware, Otsego, Tioga, and Tompkins. We have 1,100 members and several youth and young professional groups. Our first environmental sustainability strategy was issued June 5, 2020. We update the strategy every June 5, World Environment Day.



community needs assessments.

The district strategy is holistic and covers three broad areas: protecting our natural assets, biodiversity, and the climate challenge. Rotary works with partners at the international, national, and local levels in order to make a bigger impact. We have members that can provide presentations on many topics, including net zero waste, net zero carbon footprint, recycling and reuse, En-roads climate model, and

Our major strategic partner is Tier Energy Network (TEN). TEN provides significant technical and regulatory analysis. They have identified all of the companies, organizations, and projects that make up the clean energy industry in the region. Our Rotary district is expanding the database to include companies and organizations in environmental sustainability.

The district strategic plan issued June 5, 2022 is available upon request. Activities for last year included:

- Active participation in ESRAG and ESRAG for Eastern North America. Networking with clubs and districts around the world.
- Assessing the Connected Communities Project in Cape Cod that aims for a “net zero” environment. A “net zero” school is prominent in the plan and incorporates workforce development, entrepreneurship, agriculture, STEM, and the Internet of Things, in addition to the traditional DER and controls. Can we replicate this effort in a way that interests the Department of Energy?

- Presentation on the Ithaca Green New Deal at the Rotary District Conference. The presentation included the planned impact on underserved communities.
- Further development of a holistic strategy for the Susquehanna River Watershed. The Susquehanna River travels 444 miles and represents one of the five oldest rivers in the world at 300 million years. Plan B will include the Chesapeake Bay and provide Rotary and partners experience with an entire watershed. Projects and programs on this effort can be shared with watersheds around the world.
- Held the first paddle event to promote environmental sustainability in the region.
- Provided support in numerous conservation areas, community gardens, fruit nursery, pollinator gardens, tree planting, river and riverbank clean-ups, and trash pickups.
- Tested the potential use of microbes to clean water bodies.
- Supported and promoted the Susquehanna NY Water Trail project from Cooperstown to the Finger Lakes.
- Held the first lithium-ion battery and device recycling event.
- Partnered with Habitat for Humanity on highly efficient homes.

Additional focus areas for 2023 include:

- Join, develop a collaboration on the Finger Lakes region.
- Further define partners and project scope for the Delaware River watershed.
- Further involve youth and young professionals in environmental sustainability projects.
- Identify funding opportunities that can supplement Rotary grant opportunities including a project of scale.
- Explore transfer of projects and programs to developing countries through a collaboration of Rotary, Universities, Industry, and TEN.

Rotary International provides four major strengths to environmental sustainability:

- Presence in 215 countries and territories.
- A communications network to identify and disseminate best practices.
- A growing number of strategic partners.
- A proven track record on some of the greatest challenges in the world.

Citizens Climate Lobby, Southern Tier and Finger Lakes Chapter

Citizens Climate Lobby (CCL) is a nonprofit, nonpartisan, grassroots advocacy organization focused on national policies to address climate change. Our Southern Tier and Finger Lakes chapter includes 975 members from three Congressional districts: the new NY-19, NY-23, and NY-24.



Citizens' Climate Lobby

Citizens' Climate focuses on bipartisan national climate policies. In particular, we support national solutions that 1) lower carbon emissions significantly; b) have bipartisan appeal; and c) don't hurt low- or middle- income people. To raise awareness and generate support for such policies, we have local conversations, publish media, and reach out to our legislators. It's also important to us to encourage civil dialogue across the political spectrum. Our volunteers span that spectrum, and we work with legislators of all stripes. Learn more [here](#).

In 2022 members of our Southern Finger Lakes Chapter:

- Published 14 letters and op-eds in local papers, including Ithaca Journal, Finger Lakes Times, Buffalo News, Star Gazette, and Ithaca Voice
- Participated in seven lobbying events with Senator Schumer and Representatives Reed, Sempolinski, and Bowman
- Participated in a town hall with Representative Reed
- Held a public town hall forum with NY-19 Congressional candidates Josh Riley and Jamie Cheney

- Participated in New York state-level actions, such as commenting on the CAC’s Draft Scoping Plan and analyzing state legislative priorities
- Met with a staffer for Assemblymember Anna Kelles
- Held four outreach events (presentations and tabling events)
- Contacted legislators 295 times

City of Ithaca

Climate Justice

- Accepted a definition of “Climate Justice Communities” that contextualizes social and economic vulnerabilities within the local landscape.
- Began developing the Justice50 framework in consultation with frontline communities, policy experts, and the state and federal government.
- Collaborated with research faculty at Cornell University and Cayuga Medical Center to begin mapping health vulnerabilities and their intersection with climate change and air toxins.



Energy

- Launched the citywide building electrification program, Electrify Ithaca, in June. This program leverages private capital, aggregated building portfolios, and government incentives to electrify all 6,000 city buildings at reduced cost.
- Finalized a comprehensive greenhouse gas inventory that captures the full lifecycle of methane—using advanced methane accounting methodology—and electric grid emissions.
 - In partnership with Cornell, completed analyses of energy demand and sourcing across all city-owned buildings, and used this data to model aggregate electricity demand following full decarbonization.
 - Entered phase II of the Ithaca Energy Code Supplement, which doubles sustainability criteria minimums for new buildings.
- Adopted the Ithaca Energy Code Supplement, requiring that all new buildings meet net-zero targets by 2026.
- Passed a Community Choice Aggregation (CCA) local law that enables development of an implementation plan to aggregate energy accounts, thereby leveraging affordable access to 24/7 carbon-free energy.



Transportation

- Secured congressionally directed spending for a green hydrogen project and electric vehicle charging hub at Southworks campus.
- Finalized a current fleet inventory to support citywide fleet electrification project scoping.
- Contracted with Siemens to estimate EV load forecasting.
- Contracted with Groundwork Data to develop a comprehensive decarbonization data inventory including all street, parcel, and utility assets. This allows the City to develop targeted decarbonization strategies by querying across multiple factors.

Collaborations

- Began a sustainability department internship program, hosting 12 students from three universities and varied backgrounds.
- Worked with Columbia graduate students on a white paper and visual supplement providing an overview of the city's electrification program.
- Created and deepened partnerships with over 200 local, national, and international organizations with allied missions to share successes, challenges, and resources.
- Ongoing collaborations with Cornell students and staff.

- Filmed an episode of PBS NOVA that followed the sustainability office and City staff for the episode *Chasing Carbon Zero*.
- Filmed an episode of PBS Roadtrip Nation that followed three students exploring energy careers in NYS.



Certifications/Awards

- Received the US Green Building Council Upstate's Climate Justice Champion award.
- Reinstated Carbon Disclosure Project (CDP) reporting.
- Began pursuing LEED for cities certification in collaboration with USGBC and Cornell Systems Engineering.

Ongoing/Upcoming Projects

- Finalizing the City's Climate Action Plan.
- Tracking IRA funding opportunities as disbursement process begins.
- Engaging the NYS Climate Action Council Scoping Plan to ensure compliance and provide advocacy where necessary.
- Pursuing internal carbon pricing structure and assessing financial risks of climate inaction.
- Issuing an RFP for energy assessments of city-owned buildings.
- Issuing an RFP for phased-in electrification of city fleet and supporting public and municipal charging infrastructure.
- Siting of solar array and battery storage project(s).
- Pursuing implementation of a deconstruction ordinance that takes into account embodied carbon.
- Pursuing implementation of a building performance standard for existing buildings.
- Comprehensive modeling to determine the workforce and training needed to achieve city decarbonization by 2030.
- Explore the feasibility for multiple novel projects to support electric infrastructure, including V2G/V2X, floating solar, and waste-to-hydrogen, among others.

Climate Reality Project, Finger Lakes Greater Region NY (FLGR-NY) Chapter



The Finger Lakes Chapter of Climate Reality includes inspired climate activists located in the Finger Lakes and Southern Tier regions of Central NY. We are working to unify climate activism over a widespread area, with plans to improve public awareness of the climate emergency and to actively promote the completion of the goals of the Climate Leadership and Community Protection Act (CLCPA) for our region and the Ithaca Green New Deal. The Chapter also aims to reach out

and work cooperatively with other active environmental, climate justice, and sustainability groups within the region. On a global perspective, we support and include working toward the 17 Sustainable Development Goals of the United Nations: <https://sdgs.un.org/goals>. We welcome all trained Climate Reality Leaders living in our region as well as community members who are interested in participating.

Chapter email: fingerlakesgreaterregion.ny@gmail.com

Website: <http://climaterealityfingerlakes.org/>

IGND Scorecard website: <http://igndscorecard.org/>

LinkTree: <https://linktr.ee/ClimateRealityFingerLakes>

Facebook: <https://www.facebook.com/groups/climaterealityfingerlakes>

Facebook (Book Group): <https://www.facebook.com/groups/2971646586421809>

Twitter: <https://twitter.com/FlgrNy>

Instagram: <https://www.instagram.com/climaterealityflgr/>

Slack: <https://theclimatereaa-cim8673.slack.com/>

2022 Accomplishments

- In October of 2022, the chapter sub-team launched the IGND Scorecard. The press release led to multiple press interviews, articles, and broadcasts. The team has presented the scorecard to numerous environmental groups. Based on feedback the Scorecard has been updated in several impactful ways.
- For the December 2022 TCCPI Meeting, the IGND Scorecard Team (Tom Hirasuna, Diane Stefani, Paula Welling and Barbara Luka) presented an overview of the IGND Scorecard project website which went live in November 2022. We were also scheduled to present to the Tompkins County EMC group and the Tier Energy Network (Binghamton) in 2023. We continue to meet monthly with Acting Sustainability Director Rebecca Evans and plan quarterly updates to the scorecard in addition to blog features. We hope that TCCPI members will continue to contribute feedback about the IGND Scorecard.
- Over 2022, the Chapter membership grew from 79 to 102 members of whom 43 were trained Climate Reality Leaders. For social media, Facebook group memberships increased from 44 to 73 and Twitter followers climbed from 99 to 219.
- In 2022, the Chapter held 12 regular monthly meetings with speakers on a variety of topics such as COP 26; Legislation; CLCPA Scoping Plan; Chapter Initiatives, Goal & Activities; Envirothon; Soil Science; Compost; Climate Reality Presentations; Agriculture/Food Emissions; Green the Grid and Electrification; Large Scale Community Electrification; and IGND Scorecard. There were 7 informal/happy hour meetings (no agenda). Our Book Group discussed seven books over the course of 2022. With six other local chapters, we participated in the planning and production of the [NYS Coalition Retreat](#) held in April. All meetings were held virtually through Zoom.
- As part of the Federal lobbying efforts for climate legislation in 2022, our chapter took part in Zoom meetings with the offices of Senators Schumer and Gillibrand, and Congressional members Katko, Morelle, and Jacobs. For 2023, we will need to establish connections with the new Congressional members (Reps. Molinaro, Langworthy, and Williams) and revisit with Reps. Morelle and Tenney. We will also try to connect local communities with available incentives through the Federal IRA and Bipartisan Infrastructure programs.
- For our NYS legislative effort we participated with our NYS Coalition in the Renewable Heat Now campaign and supported the bill calling for a moratorium on proof of work cryptocurrency mining that was eventually signed by Gov. Hochul. For 2023 we will continue to participate in the Renewable Heat Now coalition. We will also increase our efforts related to fashion sustainability.
- OurChapter became an affiliate chapter of Beyond Plastics, so we could amplify our efforts in the areas of plastics waste reduction and EPR legislation. We are also a member of NY Renewables.
- We continue to network with other groups within our Finger Lakes/Southern Tier region: TCCPI, Climate Solutions Accelerator, Tompkins Cooperative Extension, Tompkins County EMC, Broome County EMC, Tier Energy Network, Citizens Climate Lobby Finger Lakes, and Sierra Club Atlantic Chapter/Finger Lakes Group.

Cornell Cooperative Extension - Tompkins County, Energy & Climate Change Team

Clean Energy Communities and Climate Smart Communities

Clean Energy Communities Coordinators Gina Cassidy, Kristina Zill, and Todd Knobbe continued to support communities throughout the Southern Tier eight-county region to take on “high-impact actions” that save them money and make them more resilient while reducing greenhouse gas emissions. In all, there were 13 additional Active Communities in 2022 (bringing the total to 87), 13 additional Designated Communities (total now at 63), and 121 additional Completed High-Impact Actions (total now at 405), bringing more than \$300,000 in grant funds to the region.



Through the Climate Smart Communities program, which we coordinate in Tompkins and Chenango Counties, our CSC Coordinator, Rachel Zevin, helped four new communities formally enter the program by taking the pledge to become “Climate Smart,” with two previously involved communities achieving Bronze level and one, Tompkins County, achieving Silver level.

Get Your GreenBack Tompkins

Get Your GreenBack Tompkins successfully concluded its management of the NYSERDA-funded Community Energy Engagement Program for the eight-county Southern Tier region. Over a period of four



years, staff provided over 3,000 residents—mostly low and moderate income—with free energy advising, and over 1,200 of those residents took a high-impact action, such as insulating their home, or installing a heat pump or solar. Close to \$9 million was invested in clean energy projects, with over \$6.5 million in grants and incentives from local, state, and federal sources.

The tiny home PowerHouse—which now has an adequate truck and hitch, so it is not dependent on the kindness of our local towing company—was used to support energy outreach in various venues, and revenue was raised through fee-for-service programming at area schools and libraries, which complemented our grant funding. Get Your GreenBack as a program and identity will be coming to a close in 2023, but its work will continue with the NYSERDA Regional Clean Energy Hub, a \$3.5 million four-year grant serving the Southern Tier.

LMI EV Program

Growing out of EV Tompkins, Holly Payne continued to lead our collaboration with Way2Go, Ithaca Carshare, Ridge Road Imports, and Clean Communities CNY, under a program led by Energetics, to identify and work to address the barriers to the wider adoption of EVs, including growing the local used EV market, working with local lenders to provide more accessible financing options, and providing education and outreach to underserved populations (with a focus on low- and moderate income community members).

Ag Energy

Through the Ag Energy NY Program, Robbie Coville created resources for farmers across NY to reduce the energy use of their farm operations. Working closely with about a dozen CCE offices, he walked educators through a Moodle Course and provided resources including fact sheets and a web site (<https://agenergyny.org>) they could use with farmers in their communities.

Ithaca Green New Deal

We continued our collaboration with the City of Ithaca to further design and implement the Ithaca Green New Deal. Focusing on the South side community, Anne Rhodes forged relationships with local residents, the Southside Community Center, Ithaca Catholic Worker, and others to create a community-based program that helped unite the community around the benefits of widespread electrification of buildings, workforce development opportunities, and the deep history of that community. Guillermo Metz also worked with a group of partners to help Ithaca Neighborhood Housing Services explore bringing a set of services, including heat pumps, solar, battery backup, and electric vehicle charging stations, to a multi-family multi-use building. While ultimately deemed not feasible, it did provide valuable insight into the complexities of fully electrifying multiuse buildings.

NYSEG Lansing Non-Pipes Alternatives Program

Later in the year, we launched an education and outreach component for NYSEG’s Non-Pipes Alternatives (NPA) program. As the name suggests, the NPA is an effort to reduce gas use in the Lansing moratorium area in order to ensure adequate gas pressure even at moments of highest demand without the traditional approach of expanding gas infrastructure. The education and outreach effort supports other projects in the NPA portfolio, including the installation of a geothermal heat pump system at the Cornell Childcare Center, a district geothermal system connecting about a dozen homes, a community-wide heat

pump and weatherization campaign that is offering additional incentives in and around this geographic area (in addition to those available to all NYS home and business owners), and energy upgrades and installation of new higher-efficiency gas boilers at the Lansing Central School District. If successful, this program will divert millions of dollars previously approved for a larger pipeline and show that reducing gas use is an effective way to increase reliability, along with myriad other benefits.

Way2Go

Connecting People to Transportation: A Focus on Mobility Options and Equity

Way2Go continued to shine a light on transportation equity and access as it led the Transportation Equity



Coalition's Transportation Equity Needs Assessment, designed to identify the strengths and weaknesses of our transportation system as experienced by people in underserved communities.

Part one of the assessment included interviews with six key focus groups to get an in-depth understanding of their experiences with

Tompkins County's transportation system. Through these focus groups, the coalition heard directly from people who often experience the most barriers to transportation, including people with disabilities, seniors, youth, BIPOC, and people with limited access to transportation, such as rural residents with limited income or without the ability to drive or access transit.

The second part of the Needs Assessment is a transportation survey, which will be broadly disseminated to reach a diverse cross-section of the Tompkins County population. The survey results will help to educate decision makers about the transportation needs in our community and drive potential solutions. By enhancing mobility options where they are needed most, Tompkins County has an opportunity to identify solutions that don't just close transportation gaps, but do so in a way that increases the overall sustainability of our transportation system.

Addressing Transportation's Contributions to Climate Change

Way2Go worked with CCE Tompkins' Energy Team to strengthen community knowledge of electric vehicles (EVs), so that low- and moderate-income residents can benefit from the transition to EVs once they become affordable.

Among other activities in 2022, Way2Go offered practical EV education through free online Auto Finance Classes in April and July. Our partner, Alternatives Federal Credit Union, discussed the cost and benefits of loans vs leasing, and ways of refinancing predatory car loans while improving credit scores. CCE educators shared comparisons of the operational savings of EVs compared with traditional gas cars. By advertising through partner networks, we attracted 61 registrants and 28 participants – largely people of color whose financial questions suggested low-income streams.

We also organized car buyer maintenance classes for the same group, taught by a mechanic partner from Ridge Road Auto, who demonstrated simple techniques to assess used cars before purchase, and to see firsthand the basic differences between gas and electric car models.

Way2Go and the CCE Energy program hosted and collaborated on six large EV promotion events that spanned rural and urban venues from Ithaca, Dryden, Caroline, Newfield, and Trumansburg. We kicked off the series by hosting and organizing a National Drive Electric Earth Day Show at Cass Park where 19 EV owners showed off their EVs alongside TCAT's electric bus, EVs from CarShare, Maguire, and BikeShare eBikes. Despite damp weather, over 100+ people attended, most of whom spoke directly with EV owners and event leaders to learn about safety, battery range, different types of chargers, and how to find EV chargers with owner-informed free apps like plugshare.com as well as operating an EV with a disability (e.g. loading walkers and wheelchairs into different EV models).

Tompkins County's demand for electric vehicles is on the rise, and once the EV supply has caught up, our low- and moderate-income drivers stand to benefit.

Other Programs and Activities

- Ag & Solar: Guillermo continued working with CCE educators across the state to collect and develop resources addressing the major issues around large-scale solar development, particularly as it impacts active agricultural land.
- Induction Cooking: Guillermo also continued working with CCE-Tompkins Nutrition Team staff and a volunteer chef, Rupert Spies, to deliver a series of cooking classes featuring portable single-burner induction cooktops in order to introduce people to the technology through a relatively inexpensive, easy-to-use appliance. Highlighting both the dangers of gas cooking and the benefits of induction, the classes gave participants hands-on experience with these revolutionary appliances.
- Clean Energy Engagement Program (CEEP): Guillermo continued to administratively lead the CEEP program in the seven-county North Country region, which provides information and resources connecting people to programs and incentives to reduce residential energy use, primarily for low-income households. The program evolved into the Clean Energy Hubs later in 2022, which is being directly led by our partners in the North Country).
- Radon: Guillermo continued to provide information and resources to the community on the dangers of and mediation strategies for radon.
- CCE-Tompkins Energy & Climate Change Team staff continued to populate and maintain sections on the CCE-Tompkins web site covering topics including Heat Pumps, Weatherization and Building Efficiency, Solar and other Renewable Energy Sources, Electric Vehicles, Induction Cooking, Green Building, Heating with Wood, and Radon.
- Guillermo participated as a member of the Ithaca 2030 District Advisory Board and the Tompkins County Climate and Sustainable Energy Advisory Board.



Cornell University

- STARS Platinum rating for the 4th consecutive year, the only institution to have achieved that. Platinum is the highest rating that can be achieved and indicates that Cornell University has demonstrated exceptional commitment to sustainability across a wide range of areas, including academics, operations, and engagement with the wider community. <https://reports.aashe.org/institutions/cornell-university-ny/report/2023-03-03/>
- 90% of academic departments offer sustainability courses
- 91% of departments conducting research are engaged in sustainability research
- 100% of entering students have the opportunity to participate in sustainability-focused orientation activities
- Greater than 50% reduction in Scope 1 & 2 GHG emissions from our baseline in 2005
- 100% of newly constructed or renovated buildings receive LEED certifications
- 1,400 acres (100%) of grounds managed organically or in accordance with an Integrated Pest Management Program (IPM)
 - 296 acres (21%) of grounds managed organically
 - 1,104 acres (79%) of grounds managed in accordance with an IPM program
- 63% of materials were diverted from landfill by recycling, composting, donating, or re-selling
- 39% reduction in potable water use per weighted campus user since 2005
- 30% reduction in building energy consumption since 2005 despite steadily increasing campus size. Check out our energy conservation work on [Cornell's GRITS public dashboard](#). Project highlight: [Statler renovations to save \\$3.1 million, reduce greenhouse gas footprint](#) – renovations to Statler Hall, part of Cornell's Energy Conservation Initiative, have yielded significant energy and carbon savings on campus.



Cornell University

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|---|---------------------------------|------------------------------|----------------------------------|
| TOTAL PROJECTS FUNDED (COMPLETED / IN-PROGRESS) | TOTAL INVESTED TO DATE * | MEDIAN ANNUAL ROI | MEDIAN PAYBACK PERIOD |
| 63 / 3 | \$ 48,036,886 | 13.68% | 4.91 years |
| MEDIAN ANNUAL EMISSIONS ABATED | TOTAL FINANCIAL SAVINGS TO DATE | TOTAL ENERGY SAVINGS TO DATE | TOTAL EMISSIONS ABATED TO DATE |
| 322.71 MTCO₂e | \$ 67,149,029 | 3,173,832 mmbtu | 289,513 MTCO₂e |

Efficiency data powered by  GRITS

* Includes investments to in-progress projects without savings to date
Last updated 04/14/2023

- [Cornell Living Laboratory database launched, highlights sustainable projects on campus](#)
 - Get inspired by the depth and breadth of projects advancing sustainability!
- [Solar panels adorn new North Campus residence halls](#)
 - Solar now supplies 35% of the new North Campus residence hall complex's annual electricity needs.
- [Cornell University hosts first Climate Action Week](#)
 - Cornell's first-ever [Climate Action Week](#) on November 14-18th brought together the Cornell community with conversations, workshops, and rallies on climate change and carbon neutrality.
- [Cornell University Borehole Observatory \(CUBO\)](#)
 - The nearly two-mile deep borehole observatory will help the university determine whether to move forward with a proposed plan to warm the Ithaca campus with Earth Source Heat (ESH).
- [Low carbon air travel pilot launches](#)
 - Departments and teams can join a pilot program to reduce the carbon footprint of air travel.
- [New campus energy reduction grants power big savings](#)
 - A new mini-grants program funded by the Campus Sustainability Office and Energy & Sustainability Department provided \$1,000-\$2,000 funds for three campus teams to implement energy-saving measures in lighting, lab equipment, and more.
- [Labs reduce energy in annual cold storage competition](#)
 - Cornell laboratories reduced energy use by targeting freezers in the international Freezer Challenge, which encourages friendly competition between research-intensive laboratories that rely on cold storage.
- [New employee excellence award honors sustainability service](#)
 - Honoring the importance of sustainability stewardship, culture, and contributions by employees, the "Culture of Sustainability Award" was added in 2022 to the nominations



for [President's Awards for Employee Excellence](#). The President's Awards recognize employees who have made an outstanding contribution to Cornell University.

EcoVillage at Ithaca, Inc.

- EVI, Inc. continued to pursue its mission in 2022 to steward the 140 acres outside the village area for the preservation and conservation of open space, development of sustainable agricultural practices on this land, and promotion of sustainable high-density community living.



- Throughout the year, the EVI, Inc. board worked closely with the four organic farms located on the nonprofit's land: West Haven Farm, Groundswell Center for Local Food and Farming incubator farm, Kestrel Perch, and Three Story Farm.
 - With the closing of the Kestrel Perch operation, the board explored options for its future, a process that concluded in early 2023 with the decision to carry out an interim transition involving West Haven Farm and New Roots Charter School.
 - The board continued its discussion in 2022 with two EVI residents regarding their desire to purchase land from EVI, Inc. and construct clustered, affordable housing along Westhaven Rd. to accommodate several Burmese refugee families who grow and harvest crops at the Groundswell incubator farm. The board reached agreement on the terms and closing for the sale of the land took place in August.
- The board also worked on developing a policy for organized events such as classes and events on EVI land.

EMPEQ

- America needs to decarbonize over 7,000 buildings every day for the next 27 years if we are to reach our 2050 climate goals and we cannot do this without on-site equipment data collection in existing buildings and well-aligned financing for building owners. EMPEQ's revolutionary Fast Site Survey™ reduces the time spent by engineers and contractors on building equipment assessments by up to 80% and arranges financing solutions for their customers with just the click of a smartphone's camera. The platform's site survey module utilizes artificial intelligence (AI) to identify and digitize the specifications of millions of pieces of equipment in one click of a smartphone's camera. The platform's fintech module provides same day response and embedded deep industry intelligence, combined with personalized, responsive service to help building owners find just the right product. EMPEQ offers a package of products that help clean energy engineers and contractors to Close More Deals FasterSM.
- 2022 was EMPEQ's most successful year to date, specifically 2.6x'ing its 2021 total revenue and experiencing 1110% software-as-a-service monthly-recurring revenue growth.



- EMPEQ and Fast Site Survey™ [won a Stevie®](#) at the International Business Awards® for Energy Industry Innovation of the Year.
 - The company released "Fast Site Survey 2.0" that included a new flexible feature set in Q4. 2.0 allows customers to customize forms for data collection and create repeatable standard operating procedures for building audits within Fast Site Survey. This new release led to EMPEQ adding Johnson Controls, US Air Force, and Siemens as paid SaaS Customers.
 - EMPEQ finalized a [partnership with Con Edison](#) to bring its suite of products to the utility's Clean Heating Program.
 - EMPEQ finalized a [partnership with RETScreen](#) – the world's largest energy modeling software – to act as the data collection solution for their 750,000 customers.
- With \$19.8 million in finance originations, EMPEQ and its subsidiaries experienced year-over-year increase of 517% in volume of commercial equipment projects in 2022; this was

accomplished despite continued supply chain challenges and rising interest rates. Each of these projects will have a tremendous impact on the carbon footprints of the buildings that were retrofitted.

- EMPEQ was also awarded a [SBIR Phase I](#) from the US Air Force in December. The Air Force sees tremendous potential in Fast Site Survey to help the continued “Greening of the Air Force” initiative.
- [NYSEG awarded EMPEQ an Ignition Grant](#) based on Fast Site Survey’s potential for adding efficiency to building and equipment auditing.
- The company raised more than \$300,000 in a convertible note round in 2022.

Finger Lakes Land Trust

During 2022, Finger Lakes Land Trust surpassed some key milestones: over 29,000 acres permanently conserved, nearly 5 miles of lakeshore protected, and 52 miles of trails open to the public. The Land Trust accomplished the following in the greater Ithaca/Tompkins County area last year:

- Completed the purchase of the 480-acre Bell Station property, featuring 3,400 feet of pristine Cayuga Lake shoreline, from New York State Electric & Gas (NYSEG). The property, located in the town of Lansing, Tompkins County, was the largest privately owned parcel of shoreline remaining in the Finger Lakes region.
- Expect that a portion of Bell Station property will be dedicated to solar, as per town of Lansing’s wishes.
- Sold a historic 200-year-old fieldstone house and 3.5 acres in October to a private buyer contingent upon a preservation easement held by Historic Ithaca ensuring that the architectural, historic, and cultural features of the house will be retained and maintained in perpetuity. The property was originally donated to the FLLT in June by Tompkins County resident Margaret Bald, who passed away in 2020. She also conveyed 140 additional acres to the FLLT that will be conserved separately. This land features mature forest and brushland adjacent to Robert H. Treman State Park.
- Permanently protected 64 acres in the town of Dryden with a conservation easement. Owned by Susan Compton and John Saylor, the property is nestled in a small valley on the southern side of Hammond Hill State Forest, a popular destination for hikers, mountain bikers, and cross-country skiers.
- Permanently protected 45 acres in Covert with a conservation easement. Owned by William and Gail Shaw, the property is located on the western shore of Cayuga Lake and features 1,500 feet of frontage on State Route 89, part of the Cayuga Lake Scenic Byway.
- Together with the NYS Department of Environmental Conservation (DEC) protected 46 acres following a state acquisition of a parcel linking Danby State Forest to Coddington Road in the Willseyville Valley.
- Also partnered with DEC to improve public access to Potato Hill State Forest and Summerland Farm Nature Preserve with the opening of a new parking area on Blackman Hill Rd. in Caroline.
- Opened the 143-acre Eberhard Nature Preserve in Tompkins County to the public.



Finger Lakes ReUse

In 2022, Finger Lakes ReUse celebrated its 15th year anniversary! The organization continues to grow, driven by increased donation drop offs from the public. We now employ 80 living-wage employees, and we worked with 16 apprentices through our ReSET job training program in 2022. In order to acclimate to our growing workforce and donated material volumes, we focused on creating and providing training for new leadership positions in 2022, to build inclusive decision making and provide leadership opportunities as we continue to grow in size.

In an effort to keep up with the continuing increase in material donations, we secured an additional warehouse space, which has been extremely helpful in materials management as well as providing a great space for skills training for denailing and building materials processing activities.



After a long hiatus due to the pandemic, we welcomed back the Ithaca Fixers Collective, in a new space at the ReUse MegaCenter at Triphammer Marketplace. Originally started in 2014, the all-volunteer “Fixers” have once again been successfully assisting local people to learn repair skills on Saturdays since November 2022! This is a great resource for many people in the community to share skills, knowledge, and resources in a fun and relaxing setting! Volunteers across all our programs continue to help us at both of our locations with 7,500 hours logged in volunteer hours in 2022, equal to more than four fulltime employees.

We continued our partnerships with 40+ local human service organizations, to provide materials to community members in need through our ReUse Materials Access Program (ReMAP). In 2022, we were able to provide 480 households with ReUse gift cards for shopping at both of our locations.

Finger Lakes ReUse earned nearly \$2.5 million in revenue in 2022, a 19% sales growth over 2021.

In 2022, Finger Lakes ReUse:

- Received nearly 45,000 material donation drop offs from the community
- Kept 746,795 items in local use, and out of the landfill
- Welcomed the Ithaca Fixers Collective back in a new location after the break caused by the pandemic
- Received the following awards & recognitions:
 - Honored with the Town of Ithaca’s Richard B. Fischer Environmental Conservation Award
 - Voted “Best Thrift Store” and “Best Place for A Bargain” in Ithaca Times’ Best of Ithaca 2022
 - “Recover Friendly Employer” Award from the Alcohol & Drug Council
- Secured an additional warehouse space
- Worked with 26 local human service agencies to provide 480 households in need with \$110,500 in gift card value through our ReUse Materials Access Program (ReMAP)
- Provided 17 local non-for-profits and community programs with materials for community projects and initiatives
- Participated in the first ever NYS ReUse Summit, a collaborative effort of Syracuse University's Center for Sustainable Community Solutions (CSCS), Finger Lakes ReUse, the NYS Center for Sustainable Materials Management (CSMM), the Susan Christopherson Center for Community Planning, and the NYS Association for Reduction, Reuse, and Recycling (NYSAR3), held at Cinemapolis in Ithaca
- Worked with 16 apprentices through our ReSET job training program
- Provided living wage jobs for our 80+employees, and added more leadership positions to create a more inclusive team with all levels of our organization represented

Fossil Free Tompkins

NYSEG – In May 2022, NYSEG filed its proposed rate case to take effect June 1, 2023 for one to three years (three years if a settlement is negotiated, otherwise one year). NYSEG proposed a whopping 35% increase in electric delivery costs (for one year!) and a 14% increase in gas delivery costs. Many of these costs were deferred from the prior rate case. Once again, Fossil Free Tompkins (FFT) joined as a party to the case, which gives it the standing to participate in negotiations and (theoretically) have its comments

taken more seriously. In October FFT filed rebuttal testimony, underscoring the deficiencies the Department of Public Service staff found in their review of the company's proposal. FFT called for the proposal to be withdrawn or dismissed. Subsequently confidential negotiations have ensued, the outcome of which will be determined sometime in 2023.



Lansing Non-Pipe-Alternative – Finally, in the fall of 2022, five years after the non-pipe alternative proposal was approved, NYSEG completed contracts with several vendors to begin NPA projects. Unfortunately, because of delays and perhaps also Covid, one of the vendors approved to develop a project was no longer able to undertake their project. In addition, another project's scope will likely change when Borg Warner closes some of its industrial facilities in Tompkins County.

Renewable Heat Now Coalition (RHN) – FFT continued active participation in the RHN coalition where it aided in advancing several legislative initiatives.

Unfortunately, the State Legislature did not do the same.

Cryptomining – 2022 was a big year for our battle against Cryptomining in NYS. FFT gave several zoom presentations to interested groups across NYS, discussing the environmental impacts of cryptomining and its impact on NYS ability to reach our climate goals. Assemblymember Anna Kelles advanced a bill to place a two-year moratorium on cryptomining at fossil fuel power plants while the state undertakes a comprehensive environmental impact study on the practice. FFT was instrumental in helping to achieve passage of this legislation, by coordinating "call relays" that resulted in phone calls being placed to the Governor's office and key legislators every 5 minutes from 9 am to midnight for three days straight until the bill was finally passed.

Historic Ithaca and Significant Elements

Historic Ithaca and Significant Elements believe that preservation and the environment go together. Historic Ithaca is Tompkins County's only non-profit preservation organization and was founded in 1966. In 1991, Significant Elements Architectural Salvage Store was founded as Historic Ithaca's answer to waste diversion with donated items and salvaged house parts. Approximately 12,00 visitors come to the store yearly and attend Historic Ithaca's community events, all of whom are exposed to the values of an ethical interaction with our built environment. Historic Ithaca is currently exploring electrification of our own buildings (210 and 212 Center St.) for more efficient energy use. We are working with Electrify Ithaca to hold ourselves to a high environmental standard.



- Significant Elements promotes a circular economy, reuse of materials from the built environment, and deconstruction with its business model. The architectural salvage store arm of Historic Ithaca is primarily donation-based and a place for people to find architectural elements that match or complement the integrity of their home when repairing, restoring, or renovating. By selling salvage and donated items, Significant Elements is able to keep various house parts and materials out of the waste stream. Significant Elements houses three floors of previously used house parts, design and decor supplies including windows, doors, trim, flooring, furniture, fireplaces, etc.
- Historic Ithaca's work with CR0WD (Circularity, Reuse, Zero Waste, and Development) demonstrates our commitment to reuse and deconstruction as sustainable practices. As a founding member of CR0WD, we work every week to find more environmentally ethical solutions and spread the word about reuse and deconstruction through programs such as CR0WD Conversations, a monthly free webinar that brings in experts from around the country. This last year, CR0WD launched a website to provide local resource guides for practitioners and municipal officials: <https://www.cr0wd.org/>. Along with representatives of CR0WD, preservation coordinator Christine O'Malley presented in Cooperstown at NYSAR3 (New York State Association for Reduction, Reuse and Recycling) on our work, and the organization helped to sponsor the Troy

Deconstruction Summit. With partners from Electrify Ithaca and CROWD, executive director Susan Holland presented at the National Trust of Historic Preservation 2022 PastForward



conference. Susan and Christine presented to Ithaca District 2030 in December 2022. Founding CROWD members include Susan Christopherson Center for Community Planning, Cornell's Just Places Lab and the Circulation Construction Lab, Finger Lakes Reuse, and the Preservation Association of Central NY.

- Work Preserve, which began 13 years ago, teaches young adults about workforce skills that can and are encouraged to be used to maintain existing materials and contribute to

the circular economy. Participants are taught how to restore furniture from stripping varnish and staining to replacing hardware to painting, and other skills that emphasize using existing materials to divert material from the waste stream. In 2022, 19 participants worked with staff one-on-one to develop these skills.

- The Energy Retrofit Toolkit, which was publicized in 2022, is a wealth of resources for those who want to make their older homes more energy efficient and take advantage of potential tax benefits in the process. The easily accessible section on our website (<https://www.historicithaca.org/toolkit>) is our most visited page and allows visitors to locate what will be useful as they prepare to make their properties more energy efficient.
- Historic Ithaca advocates for lasting buildings to be reused, restored, and repaired. We are a voice for the built environment and encourage our communities to preserve what is standing and promote reuse and rehabilitation rather than creating waste through demolition.
- Community education is key for adaptive reuse and restoration. In 2022, we gave a presentation to the Tompkins County Legislature about the importance of saving the "Red House," at 408 N Tioga St. We led by example, and this year finalized the Cascadilla Boathouse Restoration Project in Stewart Park, and advised and facilitated the preservation of the Stone House in Enfield with Finger Lakes Land Trust.
- Historic Ithaca also promotes sustainability through our community engagement events. Every year, we host Walk and Talks tours, Cemetery Tours, and Cemetery Clean-Ups that highlight the natural and built environment and its importance to our community. Our work in the Ithaca City Cemetery particularly emphasizes the importance of that harmony, with events such as our bird and tree tours that occur in the spring.
- Historic Ithaca has representation on the boards of several other organizations that value and promote sustainability: Electrify Ithaca (Community Advisory Board), BLOC Power Education Partners, Career Pathways Project, Tompkins County Planning Advisory Board, and the Erie Canal Commission. Historic Ithaca also joined Ithaca District 2030 as participants and Susan serves on the Advisory Board.

HOLT Architects

- HOLT continued championing and participating in the efforts of TCCPI and its flagship project, the Ithaca 2030 District, through:
 - In-kind contribution of Andrew Gil's time serving on the TCCPI Steering Committee.
 - In-kind contribution of Andrew Gil's time serving on the Ithaca 2030 District Advisory Board.
- HOLT has continued to investigate methodologies for better understanding the energy needs of its 619 West State St. offices as well as potential actions for lowering the overall energy use. HOLT used the real-time monitoring from the "Internet of Things" monitoring, along with a one-month data collection/recording device installed on rooftop Air Handling Units to help analyze if, and how, the HVAC mechanical equipment at 619 West State St. might be more efficiently operated.



- HOLT renewed its prior commitment to 2030 Carbon Reduction Standards and will be tasking all project managers with tracking performance metrics of their projects.
 - Staff Associates Andrew Gil, and Catherine Blakemore, both of whom are LEED accredited, have proposed, and begun to implement:
 - Lunchtime discussion series to review with staff the NYS Energy Conservation Construction Code (2020ECCCNYS)
 - Lunchtime discussion series to review with staff how to use the DoE COMcheck energy modeling program, which analyzes design projects for compliance with the architectural design component requirements of the 2020 ECCCNYS.
 - Principal Quay Thompson, along with numerous staff conducted a review of all HOLT's standardized construction details to ensure, at a minimum, surpassing the ever-more restrictive energy efficiency codes, with particular emphasis on preventing "Thermal bridging"; the process by which a material that has a high heat conductivity is in contact with both the indoor and exterior environments, resulting in drastic decreases in energy efficiency.
 - HOLT Architects was hired by the local firm of Sciarabba Walker & Co. LLP to design a new building for their offices in the village of Lansing. This new facility is expected to be net zero by virtue of deriving heating and cooling through geothermal heat exchange (<https://ithacavoices.org/2022/01/local-financial-firm-plans-net-zero-energy-digs-in-cayuga-heights/>)
 - A new 240,000 square foot mixed-use development along the Cayuga Lake Inlet, City Harbor, being designed by HOLT, incorporates heating and cooling systems powered by an advanced effluent-based system.
 - HOLT has committed to incorporating into its practice, knowledge and expertise with the Well Building Challenge and will be pursuing Well Building certification of its offices. In 2022 HOLT Principal Krysta Aten Schell with Associate Catherine Blakemore successfully completed and earned WELL Building certification for the HOLT office and several other local buildings.
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- HOLT and Cayuga Medical Center are pursuing LEED v4.1 and WELL v2 certification with the proposed downtown Medical Office Building. The project will also meet the NY Stretch Energy Code as well as the Ithaca's Energy Code Supplement and with NYSERDA's New Construction Program.
 - HOLT Principal Associate Cindy Kaufman, together with LEED APs Andrew Gil and Catherine Blakemore and Well Building-Accredited Architect Krysta Schell, established a committee to research known harmful chemicals in building products and materials, specifically to:
 - Identify harmful chemicals by category of harm (e.g. mutagenic, carcinogenic, etc.) and to develop or adopt a system that identifies those that are considered to be most harmful and therefore help identify those products that would be banned from projects designed by HOLT Architects.
 - Investigate/analyze/develop a means of identifying those products and materials that incorporate those chemicals identified as posing significant risk to occupants of buildings.

Ithaca 2030 District

- The District as a whole in 2022 reduced its energy consumption by 27% from the baseline and realized a savings of 40% in water use. Thus, at the end of last year, it was over three-quarters of the way toward the 2025 energy goal and 80% of the way towards the 2030 water target.



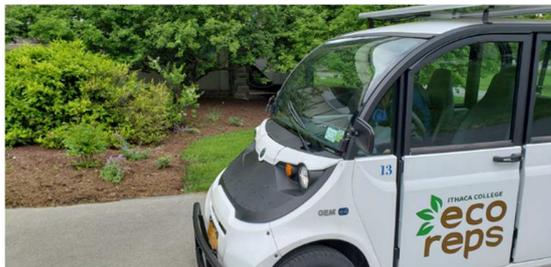
- By the end of 2022, 30 property members, 41 buildings, and 532,097 square feet belonged to the District, compared to 27 property owners, 33 buildings, and a total of 417,089 square feet of committed space at the end of 2021. Buildings added in 2022 included:
 - 102 E. State St. (downtown Cornell Store)
 - 108-12 W. State St. (Stream Collaborative office)
 - 120 S. Cayuga St. (Ithaca Piercing and Tattoo)
 - 121 W. State St. (The Watershed)
 - 201 E. Green St. (County Mental Health)
 - 210 Center St. (Historic Ithaca)
 - 212 Center St. (Significant Elements)
 - 222 E. State St. (Lev Kitchen)
- We continued to collect monthly energy data and quarterly water data for the property owners, which we uploaded to Portfolio Manager and then migrated to interactive, online building performance dashboards. We carried out reviews of the individual dashboards on Zoom with the owners or designated building managers to make sure that they understood how to operate the dashboards and to see if they had any questions. The dashboards track progress regarding energy and water consumption at both the individual building and district levels.
- We carried out our fourth annual commuter transportation survey of member buildings. Commuter emissions remained an area of concern in 2022. There was, however, an improvement: they dropped from 1706 kg CO₂e/commuter/year in 2021 to 1421, a 16% reduction and significantly below the pre-pandemic level of 1,603. We still remain above the 2020 target of 1200, but at least now we're headed in the right direction. The full 2021 annual progress report can be found [here](#).
- We held monthly Advisory Board meetings and four District Partner meetings on Zoom as well as published four issues of the e-newsletter. The District Partner meetings bring together the property owners and other stakeholders to discuss issues of mutual concern and provide updates on the progress of the 2030 District.
- Topics discussed at the quarterly District Partner meetings included green revitalization in Ithaca (John Guttridge), community geothermal (Lisa Marshall), Inflation Reduction Act (Luis Aguirre-Torres), and deconstruction & building material reuse (Susan Holland and Christine O'Malley).
- The executive director attended monthly meetings of the executive directors in the network to discuss issues of mutual interest, and he participated in the annual 2030 Districts Network Summit, all of which took place on Zoom in 2022.

Ithaca College

- *AASHE Stars Gold Rating* - In late 2022, Ithaca College (IC) received a Gold Rating from the Sustainability Tracking, Assessment & Rating System (STARS) administered by the Association for the Advancement of Sustainability in Higher Education (AASHE). AASHE is a member-driven organization with a mission to empower higher education to lead the sustainability transformation. STARS is AASHE's reporting framework for universities and colleges to track their sustainability performance. IC scored a total of 67.16 total points out of 100 possible points. IC completes this report every three years which includes hundreds of metrics from academics to operations to community outreach. You can review IC's latest full STARS report [here](#).
- *Director Of Energy Management & Sustainability* - In June 2022, Ithaca College hired Scott Doyle as its new Director of Energy Management & Sustainability. Scott, who manages the Office of Energy Management & Sustainability, comes to IC after working for 15 years with the Tompkins County Department of Planning & Sustainability.
- *Top Green College* - IC was named as one of the nation's most environmentally responsible colleges by the Princeton Review based on AASHE Stars Rating and student surveys.
- *Green Power Partner* – In 2022, IC was recognized by EPA as being a 5-year member of the Green Power Partnership for its continued commitment to buying completely renewable electricity.



- *Geneva Solar Farm* - IC celebrated the six-year anniversary in 2022 of its 2.9 MW solar farm in Geneva, New York which has to date has produced 19.6 GWh of electricity for the College and prevented over 9,000 MT of CO₂e emissions.
- *Lansing Community Solar* - IC continues to subscribe to energy produced at a Lansing community solar farm for a portion of our College Circle Apartments electric needs.
- *Campus Lighting Upgrades* - Completed the lighting upgrade project for Emerson Residential Hall.
- *Electric Vehicle Charging* - IC continued operating two, dual port EV charging stations on campus that are free and open to the public – they have provided about 20 MWh of usage each year to over 30 unique users per month. Campus partners are further examining expanding EV fleet options as an active participant in the NYSEG supported EV planning process with consultant, ClearResult.
- *Sustainable Service Learning* - Utilized funding to support sustainability internship positions, international study programs and special events within the School of Business and Environmental Studies.
- *Eco Reps* – Student Eco Reps continued to act as peer-to-peer educators by engaging student, faculty, and staff in campus-wide sustainability dialogue. Eco repos continued to support composting in the College Circle Apartments in 2022. The group further increased circulation and improved monthly “Installments,” a quick read posted in campus restrooms that highlights global sustainability issues.
- *Academic Outreach* – The Office of Energy Management & Sustainability (OEMS) developed and presented content for the Ithaca College Seminar Series (ICSM) lectures, Choices for a Sustainable Future. OEMS further presented monthly Student Leadership Initiative (SLI) discussions geared at engaging students in Sustainable Transportation and developed content and presented as guest-lecturer for over a dozen courses.
- *New Student Outreach* – OEMS participated in a range of orientation and new student outreach events including the Center for IDEAS (Inclusion, Diversity, Equity and Social Change) Welcome event.
- **South Hill Forest Products** - Continued the successful South Hill Forest Products, a student-run business dedicated to providing high quality, all-natural, non-timber forest products to the community, using the natural resources within the Ithaca College Natural Lands.



- **Eco Mobile** – OEMS and certified student drivers continued to utilize the electric/solar vehicle, informally known as the Eco Mobile or Eco Bug, for major public events and Eco Reps events including its weekly composting college. The friendly rig, which has quickly become a campus favorite, is now approaching 1,100 miles.

Ithaca Downtown Business Improvement District

- The Ithaca Community Conference Center, currently under development on W. Green Street, will be all-electric, the first of its kind in our community.
- Commons guest amenities include three dog-waste bag dispensers with biodegradable bags installed by the Downtown Ithaca Alliance (DIA).
- Solar trash compactors along The Commons help to reduce the carbon footprint. These compactors compress their contents to allow more trash per bag, so they don't have to be emptied as often. Fewer collections mean cost savings for labor, fuel, and maintenance and reduced greenhouse gas emissions. Powered by the sun, these eco-friendly compactors operate in every type of weather — snow, rain, or shine.



- Downtown Ithaca worked with Tompkins Consolidated Area Transit (TCAT) and the Community Center for Transportation to secure grant funding that will bring more electric mobility services to our community and some of our surrounding neighborhoods. More of these services means a reduction in our community's carbon footprint.
- Downtown's seasonal vinyl banners on the Commons light poles can be upcycled. For example, in 2020, we transformed our Chili Cook-Off banners into aprons. Decorative lighting in Downtown Ithaca is energy efficient. The DIA uses LED snowflake lighting to decorate the poles on The Commons during the holiday season. Our holiday tree is also made of energy-efficient LED lighting.
- At least 13 of our businesses — Alley Cat Cafe, Thai Basil, Taste of Thai, Casablanca Pizzeria, The Greenhouse Cafe and Cocktail Lounge, Lou's Street Food, Sangam Indian Curry, Capital Corner Restaurant, Gorgers, Jimmy John's, and Mercato's — support Zero Waste Tompkins' Ithaca Reduces program. These restaurants and eateries support the program by asking customers to bring their own containers and cups.
- SewGreen in Press Bay Court was recently recognized with Ithaca Reduces Circular Economy credentials from Zero Waste Tompkins' Ithaca Reduces program. SewGreen is one of our community's original reuse shops that sell second-hand fabrics and sewing goods.
- The DIA, in collaboration with the Center for Community Center for Transportation and Tompkins Consolidated Area Transit (TCAT), is currently operating a Transportation Demand Management (TDM) program called GO ITHACA. The program aims at helping employees and residents in the urban core forgo their single-occupancy vehicles and instead use more efficient modes of transportation, such as walking, biking, and carpooling. This program helps reduce carbon emissions by hundreds of pounds and promotes health, social engagement, and employee & resident goodwill by incentivizing commuters and residents to walk, bike, and carpool to get to and from work and complete errands. NYS Department of Environmental Conservation grant funds were applied to capitalize on a project that will create individualized transportation plans along with a suite of new transit services, including remote parking, to workers and residents in the urban core.
- According to Walk Score, Downtown Ithaca is a "walker's paradise" where daily errands can be completed without using a vehicle. Walk Score is a tool that rates the walkability and bikeability of more than 10,000 neighborhoods throughout the continent. The numerical Walk Score for the Ithaca Commons is 98 out of a possible 100. Our Walk Score is just 2% points shy of Greenwich Village. By contrast, Lansing's walk rating is 36, Trumansburg's ranking is 53, and Cayuga Heights ranks at 34.
- To help reduce the use of plastic and paper bags in the urban core, many businesses in the downtown community now sell reusable, environmentally friendly shopping bags. In 2021 and 2022, for the holiday shopping season, the DIA circulated downtown branded reusable canvas shopping bags for our stores to distribute to holiday shoppers.
- The Downtown Ithaca Alliance's special events and GO ITHACA teams are exploring the option of offering bike parking at its special events to help in local efforts to lessen the number of vehicles traveling into the urbanized core, thus reducing greenhouse gas emissions in the community.



environmental waste. Behind the bar, they use high-end citrus products instead of fresh fruit to

decrease food waste without compromising drink quality. In a standard bar, it takes about 4 pounds of ice to chill the glass and shake a cocktail, but at The Watershed, many of the drinks are built in the glass to lessen the amount of ice and water used in the bartending process. With a menu constantly changing based on what's available, Watershed opted for digital menu boards instead of going through a wasteful cycle of updating printed menus.

- Downtown living is sustainable living. According to the Center for Sustainable Economy, a couple living in an apartment in downtown Ithaca, using TCAT, and adopting excellent green habits (e.g. unplugging appliances, composting, buying organic food) will have a carbon footprint of approximately 34 percent of the national average. A couple with the same commendable habits but residing in a single-family home outside of town and commuting in a mid-size car would be at 76 percent. Allowing for more vertical growth will allow more in our community to participate in this “green revolution.”
- Press Bay Alley, two blocks southwest of the Ithaca Commons, offered a Food Hub where people can pick up fresh produce, baked goods, and other items. The Alley also serves as a pickup spot for the Full Plate Farm Collective CSA (Community Supported Agriculture). CSA is a cooperative relationship between farmers and consumers; consumers commit to buying a crop “share” and growers commit to growing that amount of produce. Full Plate Farm Collective farms grow over 50 acres of organic vegetables and share the vision of building community, farming with integrity, and growing high-quality food with fair prices for all involved.
- The DIA continues to work on a transit corridor plan to improve bus service between Downtown Ithaca, campus communities, and other cities. Downtown Ithaca is the regional transit hub for Tompkins Consolidated Area Transit (TCAT), which its industry peers recently recognized as being the best transit system of its size in North America. TCAT contributes greatly to the community, serving as an alternative to car ownership, thus reducing traffic congestion and greenhouse gas emissions. It saves the cost of building parking facilities. Its fleet currently includes eight electric-diesel hybrid buses.
- Additional art bike racks installed around the urban core, thanks to a grant from a local foundation, provide ample amounts of bike parking in the urban core, which decreases dependency on automobiles and increases biking and access to public transit.
- The DIA has implemented composting and recycling systems for its major downtown events, such as the Apple Harvest Festival, the Summer Concert Series, Chowder Cook-Off, and Chili Cook-Off, which over 100,000 locals and tourists attend. Local service organizations like Master Composters from Cornell Cooperative Extension have helped to oversee these composting stations.
- The DIA also offers and encourages the use of reusable cups during the Summer Concert Series and offers reusable spoons and encourages attendees to bring their own reusable spoons for its Chowder Cook-Off and Chili Cook-Off. The City Centre project includes many green features such as energy-efficient windows and lighting and classic sustainable appliances like low-flow toilets. City Centre is also eliminating the need for venting to accompany clothes dryers, outfitted with heat pumps (standard practice in Europe, but a burgeoning innovation in the United States).
- Downtown Ithaca is home to Coltivare, a farm-to-table restaurant and bar as well as a major culinary education facility. Coltivare, an initiative of Tompkins Cortland Community College, offers a unique hands-on experience alongside working professionals for students studying sustainable food systems and entrepreneurship. The team aims to find all its menu items within a 300-mile radius, with some food sourced from the college's own farm. Its waste management system, which reduces food scraps to a grain-like compostable material to be used by the farm, is the first of its kind in the U.S.
- Press Bay Court on W. Street offers a free-to-use community bike repair station. By providing tools for people to make simple bike repairs we're making it safer for people to bike around the



community. By making the urban core more bicycle-friendly, we hope to see more cyclists and a reduction in carbon emissions. This project was funded in part by Sustainable Tompkins.

- Harold's Square on the Commons is an energy-efficient building aligned with the values of the local community and offers apartments that are more efficient, cost-effective, and comfortable. Designed per NYSERDA and ENERGY STAR® standards, Harold's Square provides the following: efficient heating and cooling system and hot water heater; improved building envelope and air-tight compartmentalization of apartments; Energy Star appliances that use 10-30% less energy than conventional models; efficient LED lighting; water-saving fixtures; and investment in off-site 60.3-kilowatt solar farm to further offset fossil fuel-generated power usage. Overall, the building will use at least 35% less energy than a similar conventionally built building.
- Downtown Ithaca is home to the Center for Community Transportation headquarters, which houses Ithaca Carshare, a non-profit car-sharing service with a growing fleet of fuel-efficient vehicles shared by over 1,500 members. Users can save hundreds of dollars per month in avoided gas, maintenance, and insurance costs while reducing traffic congestion, pollution, and space and money devoted to parking. Independent studies show that for each Carshare vehicle, over 15 privately-owned vehicles come off the road.
- Bike Walk Tompkins, a program managed by the Center for Community Transportation, has taken the lead in bringing a bike-share program to downtown Ithaca as part of its Blueprint for Better Bicycling program. As the number of people who use this bike-share program increases, we'll see fewer people using their vehicles to travel around downtown, thus reducing greenhouse gas emissions in our area.

Ithaca Neighborhood Housing Services

Sustainability is one of INHS' core values. All INHS homes and developments are designed and built to the highest construction and green standards. INHS is a national leader in real estate development incorporating green building and is one of the developers that helped create the LEED for Homes building standards, the leading national residential green standard.



INHS develops housing that consistently exceeds industry green building standards, including 85 that are certified as LEED Platinum, 93 as LEED Gold, and 77 as LEED Silver. The remainder of INHS-developed housing units are built to or above certification requirements, with energy efficiency in each unit at least 48% greater than required by the NYS Energy Conservation Code, appliances, and lighting above Energy Star rates, and 93% efficient HVAC systems. In addition, INHS's Community Housing Trust (CHT) Program, has built or rehabilitated 63 for-sale affordable housing that meet or exceed LEED's Gold standard.

In addition to development that aims to reduce its impact on climate, INHS strives for a holistic and sustainability-driven approach to all of its activities, from repair and homeownership programs to property management and public education programs. INHS also prioritizes environmental justice and climate adaptation in our strategic planning by prioritizing nodal development, visitability of developments, by supporting access to a variety of support services for residents, and by advertising to, and serving, income constrained and marginalized communities. These efforts ensure access to micromodal and public transportation, mitigate the negative local and global impacts of climate change, and facilitate climate adaptation for all INHS low- and moderate-income residents and clients.



INHS completed construction on Founders' Way in the City of Ithaca in 2022, which complies with EPA Energy Star Homes V3.1 as well as providing easy access to downtown Ithaca's services and transportation options. Work on home efficiency upgrades and critical infrastructure repairs within the Compass Manufactured Home Community in Trumansburg began in 2022, with substantial completion

planned for 2023. Village Grove, also within the Village of Trumansburg, was awarded a Building of Excellence award from NYSERDA for its passive design.

Construction on Village Grove is slated to begin in 2023. Minor and major repair programs, as well as the INHS property management team, completed countless repairs and upgrades for tenants and clients that increase home efficiency and create a more healthy and comfortable home environment. Lastly, INHS has continued to work towards operational efficiencies by providing opportunities for remote work and training for staff, and a focus on decreased energy use as well as increased efficiency in all operations.

Ithaca-Tompkins County Transportation Council

The Federal Bipartisan Infrastructure Law (BIL) created a slew of grant programs and other funding. Much of 2022 was spent planning and applying for funds. Here are some efforts where the Ithaca-Tompkins County Transportation Council (ITCTC) played an important role. As always, the ITCTC works in collaboration with municipal, county, and state partners so in all initiatives below there were multiple parties involved in search of successful outcomes.

- Safe Streets and Roads for All (SS4A) – BIL grant. Federal funding to develop a Safety Action Plan project across 10 municipalities, Tompkins County, and NYSDOT. The City of Ithaca is lead applicant: \$600,000 Federal award plus \$150,000 local match = \$750,000 total project funding available.
- \$463,855 available for use in the Ithaca Urban Area under the Carbon Reduction Program of the Bipartisan Infrastructure Legislation. Project selection is underway.
- The Priority Trails Strategy, a plan for countywide multiuse trails, is being updated. Work is ongoing.
- The ITCTC approved a new Transportation Improvement Program (TIP), a 5-year program of federally funded transportation projects.
- Various active transportation projects in the ITCTC's TIP continue to advance to construction:
 - City of Ithaca, Black Diamond Trail Bridge over Flood Control Channel
 - Town of Dryden, Dryden Rail Trail bridge over Route 13
 - Village of Cayuga Heights, safe walking path to the IHS/Boynnton Middle School campus.
- The ITCTC agreed to fund planning and scoping for:
 - Safety evaluation/design for Floral Ave. in the City of Ithaca
 - Extending the Black Diamond Trail from its current terminus at Taughannock Falls State Park to the Village of Trumansburg
- The ITCTC published a 2022 edition of its popular Ithaca and Tompkins County Bicycling Suitability Map. The current map is available in hardcopy or online [here](#).



Other significant transportation activity in 2022:

- Ithaca Bikeshare started operations.
- Approval of speed limit reduction citywide to 25mph – implementation in 2023.
- Golthaca received a significant award from NYS to continue its transportation demand management work.
- TCAT served a lead applicant in successful grant application to advance different transportation electrification strategies
- Tompkins County, Town of Dryden, and Town of Ithaca successfully agreed on a safe road crossing design for the Dryden Rail Trail/East Ithaca Recreation Way juncture at Game Farm Road. This was not an easy process, but the participants are to be commended for working through the issues to an agreeable solution.

Looking ahead to 2023:

- Implementation of different grants listed above

- Bridge construction over flood control channel for the BDT
- Bridge construction over Rt.13 for the Dryden Rail Trail

Local First Ithaca

- Produced our 12th Annual Guide to Being Local.
- Participated in the national "Shop Indie Local" campaign in November-December 2022 to encourage communities to shift their holiday spending to Indie Locals (locally owned and independent businesses).
- Featured local businesses throughout 2022 on our Facebook page.
- Continued our work with the Ithaca 2030 District Advisory Board and Tompkins County Climate Protection Initiative Steering Committee.

New Roots Charter School



New Roots is a small public high school with a big mission located in the heart of downtown Ithaca. Open to any student in New York State eligible to attend high school, the tuition-free college and life preparatory program engages students in learning actively, thinking critically, and solving real world problems creatively and collaboratively, developing the knowledge and skills to turn

21st century challenges into opportunities. New Roots features a unique four-year learning sequence that fully integrates Education for Sustainability (EfS) standards and interdisciplinary, community-based projects featuring sustainability themes while meeting all New York State graduation requirements. The lower school program (grade 9-10) cultivates foundational understandings and skills that prepare students to become actively involved in their school and local community as leaders, entrepreneurs, and activists when they move into the upper school program (grades 11-12).

On Thursday, March 17, 2022, the State University of New York awarded New Roots Charter School a charter renewal for a fourth charter term, which will run from July 1, 2022 to June 30, 2025. The charter renewal arrived on the heels of the United States Department of Education ("USDE") designating New Roots as a Green Ribbon School at the beginning of the 21-22 school year. The award recognizes schools that reduce environmental impact and costs; improve the health and wellness of schools, students, and staff; and provide effective environmental and sustainability education.

New Roots is pleased to share the following updates on our schoolwide sustainability initiatives and activities:

The New Roots "Big Farm"

New Roots currently maintains a 400-square-foot plot of farmland at Kestrel Perch at EcoVillage, which yields about 400 pounds of produce annually. Some of the produce harvested at the "Big Farm," as it's known, is used in the school's Farm to School lunch program, which provides fresh, seasonal, and healthy meals to students and staff at no charge. Extra produce is also donated to the Newt's Grocery Program, a food rescue and donation program organized by New Roots in partnership with the Friendship Donation Network. The program provides free grocery bags of food on a weekly basis to students in need and their families, and under the guidance of school nurse Mitch Schaff and Spanish teacher Tanya Kingsley, the program is largely student-run. So far this school year, 80 pounds of produce from the farm have been donated to the Newt's Grocery Program, and our goal is to increase this amount over the next year.



The Big Farm also provides engagement opportunities for students to get their hands dirty cultivating the land and learning about agriculture. This spring, school farm coordinator and New Roots teacher Aaron Snow has been plotting out the summer and fall crops that will be planted, including carrots, peppers, potatoes, broccoli, cauliflower, kale, jalapenos, and tomatoes, as well as some herbs and flowers. Students in his Food and Farming elective started growing the seeds as a class project and are tending to the sprouting seedlings, some of which will be transplanted at the farm later this season. The remainder of the seedlings will be used in a student-run seedling fundraiser planned for the late spring, the proceeds of which will be used for farm expenses. Volunteer workdays and harvest days also provide opportunities for engagement with the school community. Last summer, for example, students and families lent their hands to harvest about 300 bulbs of garlic from the farm, which have since been incorporated into school lunch dishes.

As part of our strategy to grow the capacity of the school farm and create new educational opportunities and pathways for students, New Roots submitted a grant proposal to the USDA Farm to School program in January 2023. If awarded this summer, this USDA funding would enable New Roots to expand food production, local food procurement, and agricultural education opportunities for students by investing in school garden infrastructure and deepening our collaboration with long-standing community partners such as EcoVillage at Ithaca, West Haven Farm, and Tompkins Cortland Community College.

Roots of Success

Last spring, New Roots juniors and seniors piloted the green workforce development program adopted by the City of Ithaca, Roots of Success, thanks to sponsorship by the Park Foundation. The goal of the pilot is to establish Roots of Success as a required course in the school's four-year College and Career Success Seminar sequence. Students participating in Roots of Success will receive Environmental Literacy certification from the U.S. Department of Labor, a credential we anticipate regional employers will be looking for when hiring employees at all levels, and Tompkins Cortland Community College credits. New Roots is a member of a new regional green workforce development consortium which, along with partners such as Tompkins Cortland Community College (TC3), will open up pathways for young people to bring their unique gifts and passions to the growing green economy in our region. The Roots of Success curriculum will also provide the guiding framework for the recently funded New Roots Sustainable Workforce Development Program for Youth (EarthForce), detailed below.

Green Workforce Development at New Roots: EarthForce

In December of 2022, New Roots was honored to receive a \$160,000 grant from the Tompkins County Community Recovery Fund grant program for a Sustainable Workforce Development Program for Youth project. New Roots was one of 54 total awardees chosen out of a competitive pool of over 200 applicants in Tompkins County. The grant program was established by the county to help local organizations recover from the effects of the COVID-19 pandemic and to enhance community resilience, with funded projects spanning areas such as childcare, education, health and mental health care, and housing and homelessness services, among others.



The Sustainable Workforce Development Program for Youth project, now called “EarthForce,” aims to engage low-income Tompkins County youth ages 12-18 in developing the workforce knowledge and skills necessary to obtain high-quality employment in the growing green economy, focusing on the following priorities outlined in the Tompkins County Comprehensive Plan: 1) preparation for the economic, environmental, and social impacts of climate change; 2) preserving existing wetlands and restoring wetland functions; 3) reducing the adverse impacts to native species and ecosystems caused by invasive organisms and climate change; and 4) promoting parks, community facilities, recreational activities, and networks that support regular social interaction and physical activity.

Programming will be offered through after-school workshops, field experiences, and courses offered in partnership with local after-school

providers for youth ages 12-15. In addition, we will offer a work-based learning and internship program for high school credit for youth ages 15-18. The program will build on existing New Roots programming such as the Youth Entrepreneurship Market (YEM), the Youth Ecological Restoration Corps (created in partnership with leaders of the Gayo'goho:no Nation and funded by the Department of Environmental Conservation and the Park Foundation), Roots of Success, the Farm to School lunch program, and other service-learning projects in local parks and natural areas. The program is currently in the planning and development stages with an expected launch on Earth Day 2023. Besides celebrating the launch of EarthForce on this date, Friday, April 21 will be devoted to Earth Day of Service, an annual tradition of awareness raising and service learning at New Roots. Earth Day of Service will provide students with a wide range of ecological service activity choices from urban gardening, planting native trees, clearing invasive species from Six Mile Creek, restoring ecosystems that support migratory birds, and more.

Paleontological Research Institution, Museum of the Earth, and Cayuga Nature Center

- Education is a climate solution, and one way PRI fosters climate change education is by teaching teachers. Our teacher professional development workshops reached 661 teachers in 2022. Since a single teacher can reach hundreds of students, our professional development activities potentially lead to climate change education for tens of thousands of students.
- We continue to publish blog and social media posts on climate change. Our April 15, 2022 blog post "[Ten Ways You Can Mitigate Climate Change](#)" has been viewed almost 36,000 times.
- We continued creating YouTube videos and Instagram reels on climate science and solutions, including completing a 30-video series of shorts on climate change mitigation and adaptation solutions. On YouTube, topics are collected in playlists, and include:
 - [In the Greenhouse: Exploring Climate Change](#)
 - [Climate Change Solutions, in No Particular Order](#)
- We continue to add climate change content to Earth@Home, PRI's free, online resource for learning about Earth and its history. This content includes enhanced, [updated chapters of The Teacher-Friendly Guide to Climate Change](#), and answers to [frequently asked questions](#). Earth@Home had over 900,000 unique users in 2022, and some of our climate change FAQs were among the most visited pages.
- We are exploring ways to move away from fossil fuel heating and cooling systems on PRI's West Campus.



Kids at Cayuga Nature Center summer camp creating artistic representations of their visions of a more sustainable community.

- We continued a partnership with Cornell to do outreach on Cornell's Earth Source Heat project and the Cornell University Borehole Observatory (CUBO).
- We continued running our series of seasonal Social Distance BioBlitzes for the Cayuga Lake Basin, and in 2022 we ran BioBlitz education programs with children in GIAC's afterschool program. BioBlitzes help establish a record of biodiversity in our region as the climate is changing; information and the data we collected can be found on our [bioblitz webpage](#).
- At our summer camp at the Cayuga Nature Center, elementary school-age campers enjoyed climate, weather, and energy education programs, with themes of climate science and solutions.

Park Foundation

- In 2022, the Park Foundation awarded approximately \$6 million in grant funds to about 80 organizations around the country engaging in efforts to act on the climate crisis, with an emphasis on shifting from extractive fossil fuel



practices, implementing climate solutions, and promoting healthy communities.

- Of that amount, just under \$1 million in grant funds, or approximately 17% of this total, were made to about 14 organizations and entities in Tompkins County. These local grants support efforts to advance climate solutions and reduce carbon emissions, including helping progress Ithaca's Green New Deal vision towards implementation. Grants also supported efforts to build a green economy needed for a just transition and on climate solutions related to sustainable agriculture. Funding has been provided for research, community organizing, and technical assistance to communities including centering the voices of those most impacted by climate change.

Sciencenter

- 721 students from Tompkins County (and 310 from Cayuga County) learned about alternative energy and engineered windmills.
- Many of our 2022 family Science Connections featured activities related to climate science and public discourse, including our celebration of Earth Day and events with Cornell's SEED (Science Education Engineering Development) student group.
- Our Future Science Leaders (FSL) middle school program engaged in water quality testing and monitoring, an art project representing climate data, and met with experts as they developed climate literacy and communication skills.
- The Sciencenter is an advisor on an NSF-funded project supporting youth leadership in climate change action, led by the Oregon Museum of Science and Industry.
- As part of a NASA-funded project with the Gulf of Maine Research Institute, the Sciencenter co-leads a Community of Practice for Northeast museums and science centers related to locally relevant climate change education and data literacy.
- A group of girls from GIAC's summer camp worked with Sciencenter to learn about local water quality. The program culminated in a "Dialogue and Deliberations" event for 65 community members at GIAC.



Sunrise Ithaca

- Hosted a webinar on the intersection of Indigenous sovereignty and environmental justice, which featured Jason Corwin and Joaquín Lira as speakers
- Created and distributed educational materials about the Ithaca Green New Deal
- Participated in an advocacy training with Run on Climate (a Burlington-based climate action group)
- Attended a March rally in Albany calling for increasing funding for climate, jobs, and justice
 - Organized a March climate strike demanding that the City follow through on the IGND. The rally featured 8 local community members as speakers, including IDSA members, the Learning Farm, IHS students, and several others
 - Attended an April rally in Albany that called for NYS to fulfill the commitments of the Climate Leadership and Community Protection Act
 - Attended an Earth Day rally hosted by Extinction Rebellion
 - Organized a June rally demanding that the City of Ithaca implement 24/7 carbon free



energy, increase community participation in the IGND, and create renter protection measures as part of the electrification program

- Published an op-ed in the Ithaca Voice enumerating the rally demands
- Hosted an art build in the park in advance of the June rally
- Endorsed Katie Sims for mayor and organized group canvassing weekends
- Tabled at the first annual Climate Action Expo at Ithaca High School
- Hosted a picnic and plant fundraiser, the proceeds of which went to local food sovereignty organizations
- Attended a September event at the Soil Factory centered around decarbonization and climate justice
- Published an op-ed in the Ithaca Times in support of Katie Sims' candidacy
- Attended a November rally hosted by Climate Justice Cornell as part of the statewide launch of the Climate, Jobs, and Justice bill package
- Participated in a lobby with Assemblymember Kelles for the Climate, Jobs, and Justice package

Sustainable Finger Lakes/ Finger Lakes Climate Fund

In 2022, the Finger Lakes Climate Fund (FLCF) awarded home energy upgrade grants to 7 families; 4 in Tompkins County, 2 in Tioga County, and 1 in Cortland County. Through these awards, the amount of CO2 kept out of the atmosphere over the lifetime of the installations is 797 tons. The FLCF grants were made possible by 177 carbon offset donors who contributed a total of \$27,975 to the Fund. The Finger Lakes Climate Fund has provided gap funding for home energy upgrades to 82 families since its inception in 2010.



As the pandemic began to recede, the Finger Lakes Climate Fund re-affirmed old relationships and developed new ones with businesses, organizations, and individual offset partners. Meetings with Cornell University in August led to a partnership with their newly launched Air Travel Pilot Program, which guides University departments to offset their essential travel with the FLCF. Businesses such as Carol Bushberg Real Estate, Discover Cayuga Lake, and Sungineer Solar showed their commitment to the climate by offsetting their emissions as part of the Finger Lakes Enterprises for Climate Action (FLECA) campaign. The New York Library Association promoted offsetting with the FLCF to the attendees of their annual conference in Saratoga Springs. The Tikun v'Or congregation formed a Climate Justice Initiative in December which now encourages their synagogue members to offset their travel with the FLCF.



The Finger Lakes community learned more about the Finger Lakes Climate Fund through our presentations (GreenStar Board, TCCPI, Kendal at Ithaca, Watershed Internship Program), a radio interview (WHCU), news articles (East Hill Notes in Tompkins Weekly), tabling events (GreenStar Food Co-op, Southside Community Center Energy Fair, Ithaca Festival), two FLCF off-setter newsletters, and partner profiles on our website and social media.

Because of our success at delivering extra incentives for heat pumps to lower-income families in 2019-2021 in our partnership with HeatSmart Tompkins, we were asked to apply to the competitive Innovative Market Strategies

Program at NYSERDA to expand our work in clean energy and equity. We chose to develop a pilot project to tackle two longstanding barriers in the transition to heat pumps: the smaller cost savings of switching from relatively cheap natural gas, and the 'split incentive' problem for making energy improvements in rental housing. We secured \$862,560 in performance-based funding to support switching from fossil gas

heating to air source heat pumps in 100 lower-income rental units in the City and Town of Ithaca. The [Clean Energy & Equity Pilot](#) (CEEP) will offer extra incentives for heat pumps, electric panel upgrades, and heat pump water heaters.

In 2022 we also applied for and received grant awards from Rotary Club of Ithaca Community Grant (\$996), GreenStar Partners for Change (\$ amount TBD), and Tompkins Community Recovery Fund Grant (\$532,127). The County pilot project will offer incentives to 50 lower-income mobile homeowners for heat pumps and electric panel upgrades.

Staff transitions in 2022 led to the hiring of Holly Hutchinson in April 2022 to fill the FLCF Coordinator position formerly held by Marisa Lansing. Milena Bimpong was hired in June 2022 as the Clean Energy Intern, and she transitioned to Tenant Engagement Coordinator for the LMI Rental Project in October.

Taitem Engineering

A highlight of 2022 was taking the first steps to make Electrify Ithaca happen. Taitem continues to work with BlocPower to implement Ithaca's electrification and decarbonization initiative. Taitem's Energy + Sustainability staff completed decarbonization feasibility studies for two multifamily complexes in the city. They are finalizing design and construction standards for building electrification retrofits that will set out best practices for building owners and contractors.



Related to Electrify Ithaca, Taitem is leading a team of community and technical experts to complete a feasibility study for a geothermal district in Ithaca's Southside. This project is funded by NYSERDA.

Taitem's Design Department continues its work on new, high-performance buildings and building retrofits. We recently completed design for Ithaca's first PHIUS-certified Passive House residence, which is in construction. Ithaca Asteri on Green Street is now in construction, and features heat pumps for heating and cooling and domestic hot water as well as an all-electric commercial kitchen with the capacity to serve 800 banquet guests. Ironworks, at the corner of West State/MLK and North Plain Streets, is now occupied and was selected to be part of the Northeast Sustainable Energy Association (NESEA) BuildingEnergy Pro Tour series happening in October 2023.



Taitem continues to provide statewide services for NYSERDA, Housing and Community Renewal, and others as New York ramps up its electrification efforts. A local HCR project now in construction is the new IHA Northside neighborhood. Farther afield, Taitem is leading a pilot electrification program for New York City's Department of Housing Preservation and Development, which will install heat pumps for heating and cooling and for domestic hot water in affordable housing

throughout the city. Also in NYC, Taitem was the energy consultant and contributed to the design of a RetrofitNY project at a large NYC Housing Authority building in Queens. A notable upstate project is completion of a feasibility study and design for a district geothermal project at a derelict industrial site near Syracuse. Urban Villages is an adaptive re-use projects that will leverage existing abandoned infrastructure to create a neighborhood with residential, commercial, and recreational spaces.

At the national level, Taitem is excited to be an integral part of one of seven projects chosen by the U.S. Department of Energy's Advanced Buildings Construction initiative to demonstrate innovative technologies and practices. Working with Syracuse University, Taitem is the energy consultant and design engineer and will provide complete integrated energy and design services, along with post-construction services such as commissioning and measurement & verification, for a deep energy retrofit of on-campus townhouses.

Thrive EVI Education Center

- Hired our new project director, Caitlin Cameron, in August 2022
- Webinar in April on “Witness to Injustice: Native American and U.S. History from Colonization to the Present” in collaboration with Neighbors of the Onondaga Nation (NOON) and Haudenosaunee facilitators
- Roundtable on “Bridges to Cohousing: Housing that’s Green” in July featuring Liz Walker, co-founder of EcoVillage at Ithaca
- Five-week online course, “Family Systems Theory in Community,” during October and November facilitated by Wayne Gustafson, EcoVillage resident and former chaplain and psychotherapist
- Virtual story hour on “ReUsed and UpCycled Stories about Clothing” in October presented by storyteller Lee-Ellen Marvin



- Established a monthly online Q&A for those with interest in EcoVillage
- Began monthly in-person “Forest Therapy Walks” in October facilitated by Caitlin Cameron, a certified forest therapy guide
- Hosted internal “Critical Conversations” for the EVI community to examine topics such as decarbonization, sustainable transportation, plastics, palm oil, and climate change
- Continued free public tours of EcoVillage on the last Saturday of each month and facilitate weekly private tours
- Hosted educational tours for groups from Wells College, Ithaca College, Cornell University, Center for Transformative Action, and Visit Ithaca/Chamber of Commerce

Tier Energy Network



The Tier Energy Network (TEN) is an industry-led collaboration of business, non-profits, government, and education to support the development of an industry cluster in clean energy technology in the Southern Tier. Our primary activities include:

- Collaborate, educate and mentor
 - Provide leading edge services to established businesses and start-ups: industry analysis, energy market analysis, evaluation of state energy policies and regulation, lean manufacturing, workforce development, trade missions
- etc.
- Support organizations and businesses to seek private and government funding
 - Define the industry cluster in clean energy for the Southern Tier
 - Support municipalities, schools, colleges, and universities to implement clean energy strategies

The Executive Committee provides a broad skill set in the energy industry:

Jeff Smith: President of TEN, retired utility executive, member of many regional organizations.

R. Michael Strait: VP of TEN, extensive experience in clean energy projects

Rick Mancini: Director of Wholesale Market Services for Customized Energy Solutions, retired from NYSEG with experience in electric supply and the NY energy markets

Cliff Olin: Chief Development Officer at C4V, Founder and Managing Director of Olin Capital Advisors

Dennis Lockhart: Principal of CIMSEE Consulting. Has developed lean manufacturing projects for Fortune 500 companies around the world

Sean Sullivan: Director of Smart Grids Innovation at Avangrid

Robert Lofthouse: Chair of Engineering Science Department at SUNY Broome

Diane Stefani: Broome County Environmental Management Chair, retired Human Resource Executive for Lockheed Martin Aerospace and Defense Business

Luis Aguirre-Torres: Senior Advisor to Re-Wiring America

Sara Culotta: Market Lead – Energy & Sustainability – Siemens Smart Infrastructure

Adam Flint: Co-founder and steering committee member of Energy Democracy Alliance, Director of Clean Energy Programs for Network for a Sustainable Tomorrow (NEST)

Kelly Sullivan: Senior Project Developer for Bergmann PC

2022 Accomplishments:

- Major focus on the number one challenge of attracting and developing the necessary workforce for advanced manufacturing of clean energy products and energy services required to comply with the NYS climate plan: STEM/STEAM programs, Green Jobs Corridor, Green Jobs Corridor Pilot for Broome County, Battery curriculum, and the first annual clean energy career summit for September 27, 2023.
- Conducted interviews with all organizations and businesses in Broome County involved with workforce development and under-served populations. Developing a map of all workforce programs and identifying the major barriers to developing the necessary workforce.
- Maintained contacts in the clean energy industry to provide support and develop long-term forecasts of clean energy jobs.
- Reviewed and analyzed clean energy regulations and developments. Increase support to municipalities developing climate compliance strategies.
- Maintained the bi-monthly energy speaker series where energy companies, startups and organizations provide updates. The series serves as a regional networking opportunity.
- Evaluated and promoted the many new funding sources at the State and Federal level including the IRA, the Defense Act, the Chips Act, and others.
- Served on the quarterly CED's committee of Southern Tier 8.
- Initiated long-term collaboration with colleges and universities to develop grant opportunities, support project development, increase use of interns and volunteers in the region.
- Sponsored Breaking Down the Silos program for entrepreneurs.

Southern Tier Update

Clean energy continued to take a major step forward in the Southern Tier in 2022. The award of \$113 million of State and Federal Funding for the Binghamton University led New Energy NY caps significant development by our clean energy industry and entrepreneurs. We now forecast 10,000 to 20,000 new clean energy jobs over the next ten years. The development of the largest chip plant outside of Syracuse combines with clean energy developments to raise the attraction of central upstate NY. Greater levels of organic growth are being experienced in our region.



The Ithaca Green New Deal continued to attract

international interest. The plan has been presented to major international organizations including Rotary International, the United Nations, and the World Economic Forum. The project will accelerate the need for clean energy service providers. The major sources of clean energy jobs for the decade include:

- iM3NY: Mega factory for production of Lithium-Ion batteries.
- Charge4V: Holds the technology for iM3NY and other developments, and develops factories around the world.
- Ubiquity Solar: Plan to produce solar cells at the Huron Campus.
- BAE: Produces the power train and battery packs for electric and hybrid buses, researches other forms of electric transportation, including aviation. The other BAE business in Endicott focuses on flight controls.
- Raymond: Seeing significant growth in electric forklifts and total clean energy solutions for the warehousing industry.
- Phoenix Investors: New owners of the Huron Campus – attracting companies and suppliers to the campus and the region.

- Start-up Companies: Over 40 clean energy start-up companies exist in the Southern Tier today, with more coming through the efforts of our incubators and the “Soft Landing Partnership” of Binghamton and Cornell Universities.
- Supply chain growth and in-shoring.
- Clean energy installation and service: wind, solar, storage, biomass, insulation, controls, electrification, appliance replacement, EVs, etc.
- Infrastructure development: Electric grid, housing, water supply and treatment, day care, public transportation, etc.

The clean energy jobs forecast of 10,000 to 20,000 over the next decade does not include:

- General business support: hotels, restaurants, service providers, etc.
- Retirement of existing employees (30% over the next 5 to 7 years)
- The Micron chip plant

TEN Goals for 2023 include:

- Hold the Clean Energy Career Summit on September 27.
- Develop the workforce plan for the post-summit period, including major barriers of success.
- Encourage a focus and plan on all sources of job candidates: underserved populations, immigrants and refugees, High Schools and BOCES, retention of graduates from colleges and universities, recruiting nationally and internationally, and those seeking a career upgrade.
- Improve the eco-system for entrepreneurs in the Southern Tier.
- Seek public and private funding with partners. Urge development of the Southern Tier super-regional engine envisioned by the National Science Foundation. These efforts should be driven by a holistic strategic plan for the region.
- Provide periodic updates on the CLCPA and the most cost-effective strategies to obtain compliance.
- Grow the collaboration with colleges and universities.
- Hire an executive director and assistant to meet regional goals.
- Support regional marketing.

Tompkins County

1. *Green Fleet Policy*: Staff worked to update the Green Fleet Policy which was passed by the legislature in February. Major changes include the creation of a Fleet Manager position to be appointed by the County Administrator to oversee fleet purchases; a priority on purchasing electrified vehicles, with a focus on fully-electric vehicles when possible; the requirement to add telematic devices to vehicles to improve data collection and reporting and to support right-sizing efforts; and a change to the process of purchasing new vehicles, making it a centralized process for every department.
2. *Business Energy Advisors Program*: A complete review of Business Energy Advisors program was carried out and improvements implemented to ensure its continued success. In addition, 8 new construction or major remodeling projects were assisted through the program to be more energy efficient and use less fossil fuels.
3. *Resiliency and Recovery Plan*: Completed the Resiliency and Recovery Plan and associated interactive website to position the community to recover more quickly after a disaster event.
4. *Green Facilities Project*: The Tompkins County Legislature approved \$14.7 million in spending for Phase One of the Green Facilities Project. This phase includes major energy efficiency upgrades in many County buildings, including lighting upgrades, weatherization, water conservation, and electric upgrades; installing a geothermal heating and cooling system at the Public Works facility; installing a VRF system; and improvements to the heating system at the County Public Library. Actual project work began late in 2022 and will continue and be completed in 2023.

5. *Green Fleet Project*: Staff supported eight County Department in creating vehicle replacement plans, purchased 18 new electric vehicles, and oversaw the installation of five new charging stations at County facilities for fleet charging.
6. *Sustainability Coordinator*: The Department of Planning and Sustainability filled a position for a Sustainability Coordinator to work with the Chief Sustainability Officer to help advance County sustainability goals and strategies.
7. *Climate and Sustainable Energy Advisory Board*: The CaSE board was renewed in 2022 to continue until December 31, 2024 and to further expand to 11 members. The board's accomplishments in 2022 include: providing comment and a resolution for the legislature on New York State's draft climate plan; sponsoring a public awareness webinar on the climate plan with the New York Department of Environmental Conservation; starting a working group on manufactured/mobile housing; and submitting comments on various state plans related to energy and climate change, including on topics such as cryptocurrency, advanced building codes, and utility thermal networks.
8. *Environmentally Preferred Purchasing Committee*: Cross-departmental team that met regularly throughout 2022 to promote procurement of environmentally preferred products and services throughout county operations. Targets include cleaning products, office supplies, surplus equipment, green fleet and facilities, and e-waste.



Tompkins County Climate Protection Initiative

- The Ithaca 2030 District continued to be the flagship program of TCCPI in 2022. Fifty percent of the coordinator's hours are committed to this project. The 2030 District is vital to achieving two important strategic goals for TCCPI: 1) strengthening the involvement of the business community in efforts to reduce the community's carbon footprint; and 2) establishing a process for collecting building performance data in downtown Ithaca and benchmarking it against both national and local baselines. For more details, see the Ithaca 2030 District report above.
- The TCCPI monthly general meetings continued to be very well attended, with an average of about 28 participants. That the meetings continue to attract a sizeable number of community leaders and activists after over fourteen years, together with the high number of requests made to present at the meetings (most of the agenda topics come about this way) and the fact that the agendas for the meetings are usually set several months in advance, reflect the continued strong interest in TCCPI.
- Topics in 2022 included:



- *Large-Scale Solar Development and Land Use* – David Kay, Senior Extension Associate in the Department of Global Development at Cornell, and Guillermo Metz, Energy Team Leader at Cornell Cooperative Extension – Tompkins County
- *Finger Lakes Dairy Farms and Renewable Natural Gas* – Irene Weiser, Coordinator of Fossil Free Tompkins
- *Cryptocurrency Mining in NYS* – Assemblymember Anna Kelles
- *Recent Developments at the Finger Lake Land Trust* – Andy Zepp, Executive Director
- *Tompkins Food Future* – Don Barber, Chair of the Food Policy Council of Tompkins County

- *The Citizens Climate Lobby: Goals and Strategies* – Leon Porter, Citizens Climate Lobby, Southern Finger Lakes
- *Deconstruction & Reuse* – Diane Cohen, Executive Director of Finger Lakes ReUse, Inc, and Felix Heisel, Assistant Professor of Architecture in the Cornell College of Architecture, Art and Planning, and Director of the Circular Construction Lab
- *Heat Pump Conversion in New York City* – Max Zhang, Professor at the Sibley School of Mechanical and Aerospace Engineering at Cornell and Kathy Dwyer Marble and Curt Marble Faculty Director at the Atkinson Center for Sustainability, and Alfredo Rodriguez, Mechanical Engineering Ph.D. student at Cornell
- *The Cornell 2030 Project* – Ben Furnas, Executive Director
- *Defining the “Climate Justice Community”* – Rebecca Evans, Sustainability Planner in the City Office of Sustainability
- *Large-Scale Wind Development in NYS* – Marguerite Wells, Director of Renewable Energy at Invenergy, LLC
- *New Developments in Energy Storage* – Norma Byron, Founder and CEO of Ashlawn Energy
- *Renewable Heat Now* – Lisa Marshal, Coordinator of Renewable Heat Now campaign
- *Finger Lakes Carbon Fund* – Holly Hutchinson, Climate Fund Coordinator for Sustainable Finger Lakes
- *NYSEG Smart Meter Upgrade Program* – Tim Winderl and Joseph Rusin, NYSEG’s Government & Community Program
- *What’s Next for the Ithaca Green New Deal* – Rebecca Evans, Acting Sustainability Director for City of Ithaca
- *The Ithaca Green New Deal Scorecard* – Diane Stefani, Tom Hirasuna, Paula Welling, and Barbara Luka, Finger Lakes Chapter of the Climate Reality Project
- The [TCCPI Newsletter](#), which comes out every two months, had a subscriber base of about 420 and the average open rate during 2022 was 50% for its six issues. The combined TCCPI/Ithaca 2030 District subscriber base was about 490; there is significant overlap among the two groups of subscribers. In March 2022 the high open rate for the two newsletters again earned the TCCPI Newsletter a “Constant Contact All Star Award,” which the company presents to only 10% of its users; it marked the tenth year in a row that our newsletter has been recognized in this way.
- The TCCPI [website](#), which continues to be a rich resource on climate change and clean energy issues, was updated on a monthly basis. All of the meeting notes, annual reports, and newsletters can be found archived on the site, dating back to 2009; it currently has an annual average of 6,384 visits.
- On the social media front, regular postings were made on TCCPI’s Facebook page, including articles from the TCCPI Newsletter, and we increased our “likes” from 492 to 534 during the year. Currently, we have 605 followers. In addition, the TCCPI coordinator continued several times a week to post information about energy, climate change, and sustainability issues on Twitter, and has 2,376 followers.
- Efforts to get the word out about the work of TCCPI and Ithaca 2030 District included virtual presentations to the Ann Arbor 2030 District, Burlington 2030 District, and Cleveland 2030 District. as well as two articles in Tompkins Weekly. In addition, TCCPI established its own [channel](#) on YouTube, posting selected talks recorded at our monthly meetings.
- In addition, at the invitation of Governor Hochul’s state energy and environment advisors, he co-presented in January with five other local leaders on building electrification initiatives in Tompkins County. The coordinator was also invited to submit an article for an international online project



called “[One Day in 2050](#)” to raise awareness about how the world will look in 2050 due to climate change. His piece recounted how a statewide climate justice movement pushed through policies that led to carbon neutrality in New York by 2050.

- TCCPI stepped up its advocacy activities in 2022, focusing on climate and energy legislation in Albany and actively participating in the NY Renews, Renewable Heat Now, and Climate Can't Wait campaigns.
- The TCCPI coordinator served on the steering committee of Get Your GreenBack (GYGB) and the boards of the Groundswell Center for Local Food and Farming, New Roots Charter School, PRI/Museum of the Earth/Cayuga Nature Center, and EcoVillage at Ithaca, Inc, and he was a regular attendant at meetings of the Tompkins County Climate and Sustainable Energy Advisory Board.

Tompkins County Environmental Management Council

A quick look forward before the retrospective: 2023 looks to be an engaging and collaborative year for the EMC. Tompkins County will host the New York State Association of Conservation Commissions (NYSACC) annual conference with the EMC as lead organizers. This will engage the EMC with local CACs, organizations, non-profits, and community members.

The Environmental Management Council (EMC) continued our information sharing and knowledge growth opportunities in 2022 through the following presentations:

- E.O. Wilson’s Half-Earth Vision, Vermont’s Part – Curt Lindberg, Vermont Alliance for Half-Earth
- Bio-sequestration/Better Top Soil and Aquifer Management – Tim Woods, field biologist, Town of Dryden Conservation Board
- Amphibian Breeding Migrations – Lean Kanda, Ithaca College
- Protecting the Environment Through Green Burial – Herbert John Engman, Greensprings Natural Cemetery
- Resiliency & Recovery Plan update – Scott Doyle, Tompkins County Planning and Sustainability Department
- Water Quality Protection and Other Priorities: News from the Cayuga Lake Watershed Intermunicipal Organization (CWIO) – Liz Thomas, chair of CWIO
- Environmental issues in New York State and the role of the EMC: A talk with NYS Assemblymember Anna Kelles
- Nature Benefits Us in So Many Ways – Professor Don Rakow, Cornell University



A highlight for the EMC in 2022 was our hybrid Fall Outreach event: *Flooding in Tompkins County? - Are you Ready? Let's talk about it.*

This remote and in-person event was specifically focused on reaching members of the public who were not already engaged with environmental groups. We had 26 attendants remotely and that many in person at TCPL. Many of those attending were new faces. Our panel of presenters included:

- Darby Kiley, Tompkins Co. Department of Planning and Sustainability - *What kinds of floods do we get in Tompkins County and where do they occur?*
- Robert Covert, Ithaca Fire Department Acting Chief - *Flood Safety for Individuals and the home*
- Maureen Bolton, Enfield resident and former EMC member, Master of Landscape Architecture from Cornell in Environmental Remediation - *Flooding: Surviving, Recovering, and Preparing for the Future*
- Doug Barnes, Tompkins Co. Env Health Division - *Restoring and Testing Your Private Well After a Flood*

Following the presentations and Q&A, all participants moved into small group discussions. Many participants were particularly concerned with the National Flood Insurance Program and the updated FEMA maps. This information was shared with the Planning Department for future collaboration on outreach efforts. A recording of this informative presentation is available online <https://youtu.be/wqllGr0pKQQ>.

In 2022, the EMC continued our connection to the New York State Association of Conservation Commissions (which also now recognizes EMCs). Members attended the virtual NYSACC Conference on the Environment held in October. Longtime EMC member, Stephen Nicholson, has joined the NYSACC Board of Directors and is providing a link to the statewide agency.

EMC members each serve on at least one committee. Each committee is tasked with specific goals for the year.

Education and Outreach (E&O) Committee

The E&O committee continued to develop the Green Scene newsletter, migrating to Mailchimp for signup and distribution ease. This bi-weekly newsletter compiles environmental events, news, activities, and notable items into one easily accessible email. In addition, we provide coverage of the DEC environmental notices bulletin and wastewater discharge alerts related to Tompkins County. The Green Scene is a valuable resource for anyone looking to stay in the know about events or news in the vast Tompkins County environmental scene. You can checkout past issues and subscribe here: bit.ly/GreenSceneArchive

The E&O Committee also made a connection with the neighboring Broome County EMC. E&O chair Cait Darfler gave a presentation to the Broome EMC about the Tompkins County EMC and our challenges and successes.

Unique Natural Areas (UNA) Committee

The UNA Committee met monthly by Zoom and for an in-person field trip on July 18. The field trip was led by Robert Wesley to Durfee Hill Oak Woods, UNA # 173, in hopes of finding the rare grass *Poa sylvestris* (Woodland Bluegrass). Unfortunately, the Woodland Bluegrass was not seen during this trip.

Tompkins County Water Resources Council

The Tompkins County Water Resources Council (WRC) advises the Tompkins County Legislature on matters related to water resources management and planning. The Council is also charged with identifying problems, proposing priorities, and promoting the coordination of activities in the management and protection of the County's water resources. The WRC provides a public forum for local communities and stakeholder groups to address and discuss their concerns regarding water resources. It is the intent of the group to coordinate the water resources-related efforts of local governments, public and private institutions, and agencies and organizations throughout Tompkins County.

2022 Meeting Presentations

Meetings often include presentations by guest speakers, as well as by WRC members. The following talks were given in 2022:

- Draft 2020-2022 Clean Water Act Section 303(d) List of Impaired Waters - What It Is, Why It Matters, and Concerns with Current Draft – *Roxy Johnston & Monitoring Partnership Committee*
- Town of Enfield Drinking Water Protection: Background and Local Law – *Steven Winkley, New York Rural Water Association, and Stephanie Redmond, Dan Walker, Nancy Spero, Town of Enfield*
- New State Legislation Connects the Dots: Soil Health-Water Quality-Climate Change – *David Wolfe, Cornell University*

- Resiliency & Recovery Plan Update – *Scott Doyle, Tompkins County Planning & Sustainability Department*
- Earth Source Heat and the Cornell University Borehole Observatory – *Sarah Carson, Olaf Gustafson, Anthony Ingraffea, and Teresa Jordan, Cornell University*
- A Novel Approach to Estimating Nutrient Transport and Its Applications – *Steve Penningroth, Community Science Institute*
- 2020 Water and Sewer Evaluation Update – *Kurt Anderson, Ithaca Area Economic Development, and David Herrick, T.G. Miller, PC*
- Proposed NYS Legislation to Include Watershed Health and Coordination in Soil Health and Climate Resiliency Act – *Megan Brosterman*
- Update on NYS Wetlands Policy – *Roy “JR” Jacobson, NYS DEC*
- Phosphorus Offset Tool for Cornell University – *Kara Bugis, Cornell Environment, Health, and Safety*



2022 WRC Committees

Every January, as part of its annual organizational meeting, the WRC reviews existing and forms new committees to help focus its efforts for the year and accomplish actions of the Water Quality Strategy. The following committees met in 2022:

Executive Committee

The WRC chairperson and executive committee act on behalf of the Council to provide letters of comment and advocacy to local, state, and federal agencies. Letters are drafted by WRC members or committees and approved by the WRC as a whole. When a timely response is needed and deadlines for comment do not fall conveniently within the WRC’s normal meeting schedule, the executive committee will approve and submit letters on behalf of the WRC.

In 2022, the WRC chairperson and executive committee delivered several letters.

In January, the year started off with a bang, with comments provided on the proposed changes to the Draft 2020-2022 Clean Water Act Section 303(d) List of Impaired Waters. The changes included the de-listing of the southern end of Cayuga Lake as impaired by sediment, which was of particular concern as it relates to the Draft Total Maximum Daily Load for Total Phosphorus in Cayuga Lake (dTMDL). In June 2021, the WRC provided detailed sediment comments/questions to the dTMDL, which had not yet received a response, and concerns were raised as to how the NYS Department of Environmental Conservation (DEC) will address sediment related phosphorus loading to Cayuga Lake in the absence of a listed impairment or Nine Element Plan recognizing the role of sediment. The WRC’s draft 303(d) list comment letter addressed these questions, as well as new impairment listings: Lower Fall Creek and Upper Cayuga Inlet for pH and Lower Fall Creek for iron.

In March, proposed changes to NYS DEC Draft SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems necessitated a letter of comment by the Water Resources Council in light of the previously mentioned proposed changes to the 2020/2022 draft 303(d) list.

In April, a letter of support was provided for the Town of Lansing’s Consolidated Funding Application to the NYS DEC’s Water Quality Improvement Project Program to fund the Salmon Creek stream realignment project. This project would help to reduce sediment going into Cayuga Lake, as well as work to provide streambank stabilization and protect the roadway from storm damage.

In November, a comment letter was sent to the NYS DEC for the Draft New York Great Lakes Action Agenda 2030 (GLAA), expressing the importance of the inclusion of the Finger Lakes when considering the Great Lakes Watershed. The inclusion of partners such as Soil and Water Conservation Districts, the

Cayuga Lake Monitoring Partnership, and environmental non-governmental organizations in these actions will provide increased participation and benefit, as well as inclusion of metrics outlined in watershed management plans.



In December, the WRC provided comments to the New York State Department of Health on the proposed regulations for PFAS6 maximum contaminant levels and regulations on additional emergent contaminants, expressing our full support for the recognition of the potential dangers of the class of chemicals referred to as “forever chemicals.” The letter included 20 points of interest for their consideration.

Cayuga Lake Monitoring Partnership Committee

Members of the Monitoring Partnership Committee remained steadily engaged and active throughout 2022. Here are a few highlights from their work over the year:

- Reviewed NYS DEC’s Concentrated Animal Feeding Operations (CAFO) and Municipal Separate Storm Sewer System (MS4) permits, and provided input for WRC comment letters on both permits.
- Continued work on Dave Bouldin’s (Emeritus Professor, Cornell University) carbon, calcium, and nutrient model for Cayuga Lake. Gained interest of NYS DEC Finger Lakes Water Hub and will seek funding.
- Received regular updates on Cornell’s Earth Source Heating project, tracked its progress as well as monitoring results.
- The City of Auburn (Cayuga County) and City of Ithaca reported on completion of their Drinking Water Source Protection Plans.
- Received a presentation on Cornell University’s Phosphorus Offset Program.
- Provided a monthly venue to engage with local watershed organizations and resource managers to exchange information about their work and upcoming events. Regular participants include Cayuga County Planning Department, Community Science Institute, Cayuga Lake Watershed Network, Cayuga Lake Environmental Action Now, Tompkins County’s Environmental Management Council, Planning & Sustainability Department, Environmental Health Division, and Cornell University.

Membership & Nominating Committee

The Membership & Nominating Committee recommends prospective members to fill vacancies on the Council, which is composed of 21 voting members, non-voting ex officio members from relevant federal or state agencies, and associate members with committee-level voting rights. The committee assisted in adding several new members to the Council, especially with the valuable input and recruitment efforts of County planner Darby Kiley. The committee also presented the 2023 slate of officers to the Council for nomination.

Municipal Training Committee

In October, this WRC committee hosted a “Streams 101 for Highway Professionals” training workshop on the fundamentals of stream processes as they relate to building and maintaining roads. Held at the Tompkins County Public Works Building, the all-day training was led by instructors Mike Lovegreen, retired from the Upper Susquehanna Coalition, and Tom Mallory and Angel Hinickle from the Tompkins County Soil & Water Conservation District.

The training included a three-hour classroom portion that covered the following topics: Streams/Watershed 101: Why Do Streams Look the Way They Do?; Diagnostics: How Do We Evaluate What’s Wrong?; and Corrections: How Do you Deal With What’s Wrong? Participants then visited two sites in the Town of Enfield where stream work has been done. Fourteen people attended the training, with representatives from the towns of Newfield, Ithaca, Lansing, and Danby, as well as the City of Ithaca,

Tompkins County, and TC Soil & Water. Committee members also initiated a needs assessment of highway staff in the county to help direct future programming.

Regional Watershed Coordination Committee

The Regional Watershed Coordination Committee was formed in 2022 and included not only members of the WRC but also representatives from other counties in the Cayuga Lake watershed. The committee tentatively decided to work on regional collaboration and outreach around ditches. With the release of the draft Great Lakes Action Agenda, however, the committee used their meeting times to discuss and develop comments that were submitted to the full WRC for its consideration.

Watershed Rules & Regulations Committee

This committee includes representatives from the Tompkins County Health Department and the three surface water public drinking water utilities: Bolton Point, Cornell University, and the City of Ithaca. All three utilities are participating in NYS DEC's Drinking Water Source Protection Program (DWSP2). The committee meetings provide a place to share information as the utilities move through DWSP2 process. Members reviewed the state's framework document and example protection strategies in detail. They also had an in-depth conversation with Andy Zepp, executive director of the Finger Lakes Land Trust, about opportunities to enhance source protection working collaboratively with the land trust. The City of Ithaca's DWSP2 Plan was adopted on November 2, 2022. Other topics discussed were EPA's upcoming fifth Unregulated Monitoring Contaminant Rule (UCMR 5) sampling program and NYS Department of Health's proposed new PFAS (used generically for 'forever chemicals') monitoring requirements. Rassil Sayess from Cornell University's Water Resources Institute gave a presentation on the NYS DOH proposal. Discussion of Watershed Rules and Regulations (WRR) for Cayuga Lake is on pause while the committee waits for movement on Owasco Lake's draft WRRs, which were submitted to the state for consideration in December 2020.

Tompkins Food Future

- 2022 was a critical year for the development of Tompkins Food Future's County Food System Plan.
- The Food Policy Council of Tompkins County, a citizen-led advocacy group, launched the community food system planning process in 2020 – during 2021, we shared a baseline assessment of the challenges and opportunities of our current local food system several public events, including presentations and discussions at the Tompkins County Legislature and Ithaca Farmers Market, among others.
- Based on information and feedback we gathered at these events as well as through a community questionnaire, we issued [several FS baseline reports](#) and a draft framework in early 2022.
- We then brought this draft to the community to generate specific policies, programs, and actions that our community can take to achieve a more secure food future.



- The [final comprehensive plan](#) was brought to the Tompkins County Legislature in July 2022 and accepted unanimously.
- Our next step was to plan and organize a Food System Summit, which was held in late September at the large pavilion in Stewart Park. A brief overview of the plan was presented, followed by brief talks from 15 organizations on their work in the food system.
- Since then we've continued to meet with groups such as TCCPI to help build a better understanding of the steps we need to take as a community to secure a resilient,

equitable, and healthy food system for all, and encouraging individuals and organizations to take the [Community Food System Pledge](#).

Town of Caroline

Town Planning & Sustainability

The zoning initiative reported on last year continued through 2022 and has culminated in completion of the Final Report of the Zoning Commission to the Caroline Town Board on March 27, 2023. The body of this report is the proposed zoning law. The Town's Zoning Commission, comprised of former Planning Board members and four appointed volunteers, embraced a process that invited and considered public feedback through 51 commission meetings where comment was invited, six public information sessions, and two public hearings. The Town Board now begins its review of the proposed zoning law. The



purposes of our zoning law are articulated in the Town's Comprehensive Plan. The goal is to guide development in ways that promote sustainable development, encouraging nodal development and local neighborhoods with an appropriate mix of residences, home businesses, and supportive commercial enterprises that protect open space, agricultural lands, and the environment.

Brighten Up Caroline (Clean Energy Communities Program)

We are continuing work to wrap up our NYSERDA-funded Brighten Up Caroline program. LED bulb distribution to residences and a Town LED streetlight conversion are complete. We will now be converting two of our fire halls to LED lighting (Slaterville and Brooktondale Fire Departments) in the next couple of months. We will propose to use any remaining grant funds to support the Finger Lakes Climate Fund's carbon offset grants to LMI households.

Local Clean Heating & Cooling Campaign

Caroline has partnered with a renowned geothermal engineering firm, Egg Geothermal, and the Speedsville Community Center on a NYSERDA-funded feasibility study for a "Community/District Geothermal" system for the hamlet of Speedsville. That work is now underway, and we look forward to the findings. If determined to be feasible, this would provide Speedsville homes and businesses with the option of economical and energy efficient heating and cooling, and provide a model for other rural communities currently using fuel oil and propane for heating.

Agriculture and Farmland Protection Plan

Caroline was awarded a grant of \$25,000 from the New York State Department of Agriculture and Markets in 2022 to develop a Caroline Agriculture and Farmland Protection Plan. This will be a two-year project aimed at finding ways to strengthen local agriculture and economies.

Town of Dryden

- In July 2022 the Dryden Town Board approved its first Climate Action Plan (CAP) as part of an update to the Town Comprehensive Plan. After a three-year public outreach process led by the Planning Board and by Environmental Design and Research Associates of Syracuse, the update garnered unanimous board approval. The CAP includes recommendations for both municipal operations and community-wide action steps to reduce greenhouse gas emissions and increase climate resiliency. It was drafted by NYS Planning and Development Board of Central NY.
- The Climate Smart/Clean Energy Communities Task Force met monthly working on strategies to implement CAP recommendations, complete high impact clean energy actions, and work to move the Town from its current bronze Climate Smart Community status to silver certification.

- Dryden achieved second place as a leader among municipalities in the eight-county Clean Energy Community Southern Tier region, having completed 4500 points in high impact actions. These actions qualified the Town for an additional \$30,000 in NYSERDA grants in 2022, bringing the total of grants received for clean energy actions to \$83,000.
- The town completed a three-year project with the New York Power Authority (NYPA) to install LED streetlights, converting nearly 90 fixtures from less energy efficient incandescent lights. Completion of the project brought a \$20,000 grant from NYPA to install weather sensor technology on utility poles to increase highway department efficiency.
- The Town Board approved a 100% renewable energy contract for municipal operations with Energy Cooperative of America (ECA) in early 2022, making Town Hall a net zero building.
- In March 2022 the town hired a Clean Energy Planning intern, with the one-year internship salary paid through a NYSERDA grant. The intern assisted in benchmarking town energy conservation actions and applying for grants. She also worked in collaboration with Dryden High School's sustainability club and climate change class. She helped the students secure a grant to install an electric vehicle charging station at the high school, and to produce media presentations on town energy efforts.
- Two Dryden High School students joined the Task Force and have been active members.
- The Town placed an order for a plug-in hybrid vehicle for use by Code Enforcement officers. The vehicle will be powered from the town hall EV charging station.
- The Task Force did extensive research on Community Choice Aggregation programs, interviewing potential administrators, drafting enabling legislation, and preparing a request for proposals. Town representatives also actively participated in discussions of a potential intermunicipal Community Choice Aggregation program initiated by the City and Town of Ithaca.
- The Task Force planned for an energy upgrade for the Town Department of Public Works office building, a 3500 square foot cement block structure currently heated by natural gas. A NYSERDA approved contractor conducted an energy audit of the building in October. The \$30,000 NYSERDA grant can be applied to energy conservation measures, including air source heat pumps, window replacements, and building envelop insulation.



Town of Enfield

- The Drinking Water Protection Plan is nearly finalized and ready to send to the state for review
- Installed air-source heat pumps for our courthouse, removed the asbestos insulation, and reinsulated with cellulose.
- The salt barn at the highway is completed.
- Working with Pollinator Pathways to create a pollinator garden along Main Street

Town of Ithaca

- Transitioned Sustainability Planner from a shared position with City of Ithaca to 30 hour/week position with Town; to become 37.5 hour/week in 2023.
 - Led NYSERDA Stretch to Zero pilot program application process, awarded \$200,000 to assist implementation of the Energy Code Supplement (ECS).
 - Implemented the Energy Code Supplement, filing the ECS with NYS, permit application review, legislation amendments.
 - Advanced Green New Deal implementation.
 - Attended antiracism and equity workshops to inform equity elements of Green New Deal.



- Continued development of Community Choice Aggregation program in collaboration with City of Ithaca.
- Worked towards goal of net-zero Town facilities: performed energy assessments, planned for implementation, applied for funding, hired contractors for initial phase.
- Implemented LED streetlight upgrade.
- Supported Public Works in implementation of green fleet policy.
- Started revising the Town's solar law.
- Supported participation in City of Ithaca's electrification program.