Tompkins County Climate Protection Initiative

Minutes – Friday, July 26, 2024
Video Conference
9 am to 11 am

Attending: Sheila Out, Tom Hirasuna, Tina Nilsen-Hodges, Brian Eden, Laura Vineyard, Guillermo Metz, Terry Carroll, Dawn Montanye, Dan Lamb, Janelle Bourgeois, Don Haas, Alice Green, bethany ojalehto mays, Karim Beers, Sarah Carson, Hailey Delisle, Peter Bardaglio

EarthForce at New Roots – Tina Nilsen-Hodges
Tina Nilsen-Hodges is the principal and superintendent at New Roots Charter School in Ithaca. Tina shared details about the new EarthForce initiative, an innovative program providing opportunities for young people to develop the knowledge and skills necessary to support our region's transition to greater sustainability.

- Greater awareness of impacts of climate change – we're ready at New Roots to support youth and help them become part of the region's movement to become more resilient and sustainable
- New Roots is Central NY's regional, tuition-free, public charter high school in Ithaca – some background:
  - Authorized by SUNY to open in 2009
  - First whole school model of secondary education for a sustainable future in NYS
  - Green Schools National Network Accelerator School
  - U.S. Department of Education Green Ribbon School
  - 91% graduation rate with 55% poverty rate, 36% with IEP or 504 plans in 2023
- Offer full academic program:
  - NYS Regents and Advanced Regents diploma options
  - Regents exam preparation
  - Honors projects for all students
  - Advanced science and mathematics courses
  - College credits through Tompkins Cortland Community College
  - Interdisciplinary, real-world projects
- Academics for a sustainable future
  - Meets or exceeds NYS graduation requirements
  - National Education for a Sustainable Future Standards
  - Real world, community-based learning

    - Interdisciplinary anchor projects: inquiry, collaboration, and problem-solving through 4PBL (phenomenon-, place-, project-, and problem-based learning)
    - Senior Team Capstone Projects: research and action on local issues aligned with U.N. Sustainable Development Goals
    - Integrate social justice and environmental sustainability in student learning
- Preparation for college AND technical careers
    - Our goal: Every young person graduates with college credits, college acceptance, and a resume that qualifies them for a living wage entry-level job as a member of our regional green workforce
    - We don't want students to feel they have to choose one or other
    - Growing demand both regionally and nationally for people qualified to move into green careers
- New Roots has recently established EarthForce as new program to create green career pathways for sustainable future
    - Start off offering Roots of Success in grade 10 – offers environmental literacy certification through US Dept of Labor – college-level course with students receiving course credit through TC3
    - Growing out of Roots of Success are career pathways in grades 11 and 12 featuring college courses and paid internships in green jobs sector
- Strong partnership with SUNY as a SUNY-authorized school – also Green Pathways align New Roots coursework with certificates, associates, and bachelor's degrees necessary to prepare for jobs in demand in this region in partnership with TC3 and SUNY Morrisville
- Roots of Success Module Topics:
    - Environmental Literacy
    - Energy
    - Water
    - Waste
    - Transportation
    - Building
    - Health, food and agriculture
    - Community organizing and leadership
    - Financial literacy and social entrepreneurship
- Building out pathways at New Roots for students to explore each of these areas
- One example: students researched ways to redesign Triangle Park to incorporate mitigation strategies such as rain gardens, permeable pavement, and open meadow
- Another example involved reimagining Seneca Street incorporating elements such as median designed to capture stormwater, dedicated bike lane, bioswales, etc., and other features to make street more pedestrian-friendly
- Cayuga Wetlands Restoration Project launched in 2016 – initiated through student capstone project
    - Students worked with leaders from Cayuga traditional nation to learn about how to use native wetlands species to mitigate runoff pollution

    - Resulted in multiyear project involving science classes to monitor water quality
    - Grants from Park Foundation and DEC supported establishment of Youth Ecological Conservation Corps – summer program with paid internships to establish planting sites
- For food and agriculture learning, New Roots has taken over Kestrel Berry CSA at EVI with new lease
    - 3-acre farm also includes vegetables grown for farm-to-school program and to sell at DeWitt Farmers Market
    - Want every student to have experience working at farm to understand where their food is coming from and to have experience of working with their hands
- Youth Entrepreneurship Market another initiative at New Roots to help students learn skills necessary to start small business
    - Entrepreneurial thinking one of core competencies for education for sustainable future
    - Integrate it throughout New Roots courses
    - YEM open to any student who attends school in Tompkins County
- Focused currently on building out green energy career pathway
    - What workforce needs does the green energy sector anticipate in our region?
    - What training is optimal?
    - What internship opportunities can we create for students?
    - What funding sources can support this programming?
- How can you help us grow our local EarthForce?
    - Support our efforts to identify specific local employment needs
    - Identify internship and project opportunities for students
    - Be a resource for a senior team capstone project
    - Identify funding sources for interns
    - Help us spread the word!
- Roughly 50% of students come from within ICSD boundaries and rest come from 15-20 different school districts outside city – truly a regional school
- Hoping in our next charter term to expand offering to include grades 7 & 8
- Working intentionally to offer students opportunities to connect across their differences and to embrace them
    - Lot of work done in teams and circles to encourage this
    - Strive to create safe space where students can step out of their comfort zone
- Local & National Honors Received by New Roots
    - **2021 U.S. Department of Education Green Ribbon School Award**
    - One of five charter schools nationally with this distinction in 2021
    - **2021 NYS Department of Education Green Ribbon School Award**
    - One of three schools in NYS honored with this distinction in 2021
    - **2019 Best of Green Schools Award, Transformation**
      Cayuga Wetlands Restoration Project, a partnership with the Cayuga Nation and the NYS Department of Environmental Conservation (DEC)

- **2017 Catalyst Network Top 10 Green Schools**
  Recognized by the Green Schools National Network as leader in education for a sustainable future
- **#1 Youth Project, People's Choice Signs of Sustainability Award**
  Sustainable Tompkins (2017)
- **2016 First Human Rights Friendly School Nationally** certified by the Dorothy Cotton Institute (DCI) and Human Rights Educators USA
- **2012 Top Green High School Award**
  NYS Department of Environmental Conservation

Q&A

- Peter noted that many of people who participate in TCCPI meetings could be a valuable resource for New Roots – students could really benefit from hearing about micromobility issues from Center for Community Transportation, work of Southern Tier Clean Energy Hub, Climate Reality's work at local and national levels, etc.
- Dawn Montanye: Interested in strengthening ties between New Roots and Cooperative Extension – will look for possible student opportunities for team capstone project – will also connect Tina with CCETC's Way2Go program, which does regional transportation troubleshooting and help with ways to make transportation more accessible for New Roots students and parents
- Karim Beers: Would be great if New Roots students could work with CCT and BikeWalk Tompkins to help expand access for every middle school and high school student to bikes
- Also students could help with building community solar farm locally for low-income and underserved households, drawing on their Roots of Success training as well as Energy Warrior program participants and using surplus solar panels donated by Cornell
- Perhaps students could also become involved with Clean Energy Hub's volunteer energy navigator program
- Peter observed that Don Haas at PRI has done outstanding work with teachers around climate change and earth systems education
- Don and Ingrid Zabel met recently with David Streib at New Roots about ways to strengthen collaboration in this area – teacher workshop coming up later this summer that would be good opportunity for New Roots faculty
- Guillermo Metz: Is anybody connected or working with Federal Climate Corps – you can register to become local host group but not aware of anyone who has done this

The Ithaca 2030 District Annual Progress Report – Peter Bardaglio

Peter is the executive director of the Ithaca 2030 District, the flagship program of TCCPI. He reported on the progress that the 2030 District made in 2023 regarding its effort to reduce the carbon footprint of commercial buildings in downtown Ithaca.

- TCCPI & Ithaca 2030 District
  - The Ithaca 2030 District is flagship project of the Tompkins County Climate Protection Initiative (TCCPI)

    - Builds on TCCPI model: provides non-competitive, collaborative environment built on trust and mutual respect
- What are 2030 Districts?
    - Goal: Improve energy and water performance of commercial and mixed-use buildings & reduce transportation emissions
    - Private-sector led – voluntary collaboration
    - Based in market realities, building business case for sustainability
    - Collect, benchmark, and analyze data to track progress
- Now 24 districts in U.S. and Canada – Ithaca is by far the smallest city in network
- Existing Building Targets
    - 50% reductions in energy use, water consumption, and transportation emissions by 2030
- New Building and Major Renovation Targets
    - Immediate 50% reductions in water consumption and transportation emissions, with energy use in the design year reaching carbon neutrality by 2030
- Why focus on buildings?
    - Built environment responsible for about 42% of annual global CO2 emissions
    - Of total emissions, building operations responsible for about 27% annually
    - Embodied carbon of just four building and infrastructure materials – cement, iron, steel, and aluminum – responsible for another 15%
- Ithaca 2030 District launched in 2016
- TCCPI's primary vehicle for engaging business community in effort to reduce GHG emissions
- Effort to build culture of benchmarking
- Members include building owners, community organizations, government agencies, and professionals
- Current advisory board members:
    - Terry Carroll, County Chief Sustainability Officer
    - Rebecca Evans, City of Ithaca Sustainability Director
    - Andrew Gil, HOLT Architects
    - John Guttridge, Urban Core, LLC
    - Susan Holland, Historic Ithaca Executive Director
    - Conrad Metcalfe, NYS-BPCA (ret.)
    - Guillermo Metz, CCETC Energy Team Leader
    - Jan Rhodes Norman, Local First Ithaca Co-Founder
    - Ethan Skut, Project Engineer, Taitem Engineering
- NYSERDA Planning Grant – 2015
    - Issued market analysis report, district strategy plan, and public outreach strategy
    - Developed financing guide and energy efficiency services guide
    - Conducted recruitment workshops on benefits of 2030 District and training sessions on Portfolio Manager
    - Created energy, water, and transportation baselines for 2030 District
    - Created website at www.2030districts.org/Ithaca

    - Officially launched District in June 2016
- Current Ongoing Activities
    - Collect monthly energy and quarterly water data for property owners and upload them to Portfolio Manager
    - Build online building performance dashboard for each property owner to track progress
    - Carry out annual transportation surveys to track commuter carbon emissions
    - Hold quarterly meetings of District Partners and publish quarterly e-newsletter
    - Issue annual District progress reports
- Use Portfolio Manager to collect energy and water data and then upload to dashboard
- Baselines and performance metrics used to track District's progress are listed in the table below:

	ENERGY	WATER	TRANSPORTATION
Baseline Type	Regional Baseline	Local Baseline	Local Baseline
Baseline Source	2003 Commercial Building Energy Consumption Survey (CBECS)	2014-2016 Water Consumption Data Provided by the Ithaca Water and Sewer Division (IWSD)	2012 Ithaca Commuting Survey Results for City Workers, Data from the EPA and EIA
Baseline Considerations	Climate Zone, Space Type(s), Occupancy	Climate Zone, Space Type(s)	Location
Impact Metric	Annual Energy Use Intensity (EUI)	Annual Water Use Intensity (WUI)	Carbon Emissions per person per trip per year
Units	kBTUs/square foot	Gallons/square foot	kgCO2/person/trip/year
Data Tracking Method	NYSEG + Energy Star Portfolio Manager	IWSD + Energy Star Portfolio Manager	Annual Transportation Emission Survey

- Currently, there are 55 member buildings and 922,298 square feet of committed space, compared to 33 buildings and 417,089 square feet in 2021
    - 66% increase in the number of buildings and 121% growth in committed square footage
- For 2023 annual report, we focused on 30 property members, 43 buildings, and 583,269 sq ft
- Property type breakdown by square footage:
    - Office – 28.5%
    - Educational/Cultural – 22.0%
    - Retail – 18.7%
    - Mixed Use – 22.8%
    - Restaurant – 4.5%

    - Hotel/Inn – 2.5%
    - Other – 1.0%
- Current property members can be found at https://www.2030districts.org/ithaca/members
- District reduced its energy consumption by 37% from district baseline in 2023
- In addition, used 46% less water than baseline last year
- 2022: 27% in energy savings and 40% in gallons avoided
- 2023 first year we met 2025 performance targets for both energy and water
- Slight improvement in commuter emissions – decreasing from 1706 kg CO2e/commuter/year in 2021 to 1403 in 2023
- 17.7% reduction and significantly below 2019 emissions level of 1,603
- As of 6/30/24, there are 55 member buildings and 922,298 sq ft of committed space
    - 33 buildings and 417,089 sq ft in 2021
    - 66% increase in number of buildings – 121% growth in committed sq ft
- Energy update: 2023 District Baseline EUI, calculated as weighted mean of individual buildings' energy baselines: 101.64 kBTU/sq ft
- At district level, the aggregated EUI in 2023 was 63.84 1kBTU/sq ft
- Significant improvement over 2022 results, when aggregated EUI was 76.51
- 27 of 43 buildings in 2023 met 2020 target of 20% reduction from their building baselines compared to 23 the year before – number achieving the 2030 target of 50% rose from 13 to 17
- Energy results
    - Energy cost avoided: $361,000
    - CO2e emissions avoided: 3.9 million lbs.
    - Equivalent number of young trees planted: 305,744
- Water update: 2023 District Baseline WUI, calculated as weighted mean of individual buildings' water baselines: 25.19 gal/sq ft
- At district level, the aggregated WUI in 2023: 13.56 gal/sq ft – exceeded 2025 target -- reduction of 46% from the baseline, well within striking distance of 2030 target of 12.59
- 25 properties met 2020 target of 20% reduction from their building baselines – 16 of those properties met 2030 target
- Water results
    - Water cost avoided: $165,000
    - Gallons saved: 6.4 million
    - Equivalent number of showers saved: 377,000
- Transportation emissions benchmarked as annual emissions of carbon dioxide equivalent (CO2e) per commuter
- Baseline for District in 2023: 1501 kg CO2e/commuter/yr
- Actual in 2023: 1403 kg CO2e/commuter/yr, well above 2020 target but significant reduction from 1706 in 2021 (17.7%)
- Before COVID, only 10% of respondents worked at home – with 2020 spring lockdown, proportion of remote workers jumped to 45%

- Even with reopening in second half of year, 32% of respondents continued to work remotely
- Taken as whole, in 2020 the District achieved 1172 kg CO2e/commuter/yr, below 2020 target of 1200 kg CO2e/commuter/yr
- Proportion of remote workers declined in 2021 to 28% -- percentage of commuters who drove alone jumped from 39% during 2020 lockdown to 51%
- This trend continued in 2023, with the percentage of remote workers dropping to 15% and the rate of commuters driving solo increasing to 55%
- Ithaca Green New Deal
    - City committed to achieving community-wide carbon neutrality by 2030
    - Latest GHG inventory: buildings make up estimated 58% of emissions in Ithaca – commercial sector contributes 38%
- Energy efficiency and electrification in built environment key to achieving carbon neutrality
- 2030 District's focus on improving performance of commercial buildings can clearly help accelerate reduction of community's carbon footprint

Q&A

- Sheila Out: What are the main ways to reduce water use in commercial buildings?
- Peter: Dual flush toilet, other water saving devices such as water efficient shower heads and sink faucets – especially in mixed use buildings where there is retail on first floor and apartments on the floors above
- Laura Vineyard: How are you measuring transportation emissions?
- Peter: We do an annual, online survey for commuters in each of the district member buildings – ask building owners to help us with this
- About six different questions – takes less than 5 minutes to complete
- We've made good progress in the Ithaca 2030 District but we should be doing this as a city, not just a district in the city
- We should urge Common Council to move in the direction of monitoring the building performance of existing buildings – other cities have been adopting performance standards
- We have strong requirements in place for new construction, but we need to also pay attention to existing buildings, which make up the vast majority of the built environment