ITHACA 2030 DISTRICT
2020 PROGRESS REPORT
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The Covid-19 pandemic this past year has underscored the fragility of modern life and how chaotic and uncertain the world can be. It has offered a preview of what runaway climate change has in store for us and why this challenge demands our urgent attention. Already Ithaca and the wider Finger Lakes region are feeling the local impacts of climate destabilization in the form of warmer winters, frequent heavy rain events, and increasingly volatile and severe weather throughout the year.

In response to the growing climate crisis, the City of Ithaca has committed to achieving carbon neutrality community-wide by 2030 to help mitigate the effects of climate change. Buildings make up 75 percent of citywide greenhouse gas emissions in Ithaca, so energy efficiency and renewable energy will play a critical role in reaching carbon neutrality. Clearly, improving the energy and water performance of commercial buildings in downtown Ithaca can make a direct and significant contribution to the reduction of the community’s carbon footprint.

The Ithaca 2030 District—the flagship program of the Tompkins County Climate Protection Initiative (TCCPI)—is a voluntary effort by property owners and managers to meet ambitious energy and water use reduction targets as well as to bring about cuts in district-wide transportation emissions. District Partners, by committing to the goals of the 2030 District, are not only having a positive impact on the environment, but are also saving money on utility costs, improving the well-being of those who live and work in their buildings, and stimulating the local economy.

Currently, there are 25 commercial property owners in the Ithaca 2030 District, totaling 29 buildings and about 375,000 square feet of committed space. We are part of a network that includes 22 other cities in the U.S. and Canada, including many of the largest cities in these countries. We work with property owners and managers to collect, analyze, and benchmark the performance of their buildings, and aggregate this data to track progress at the district-wide level. In addition, we bring together the District Partners on a quarterly basis to share strategies, best practices, tools, and resources that will improve performance and increase asset value.

We are excited to report the progress made since the Ithaca 2030 District officially launched in June 2016, and we look forward to continuing to work with the City and our District Partners to help create a sustainable, healthy, and resilient built environment for our community.

Peter Bardaglio
The Ithaca 2030 District was established in June 2016. The District is a public-private sector collaboration working to create a groundbreaking high-performance building district in Downtown Ithaca. A project of TCCPI, the Ithaca 2030 District is part of a larger effort in Tompkins County to reduce our greenhouse gas emissions by 80% by 2050.

By making the business case for efficient operations, the District is driving innovation through collaboration, leveraged financing, and shared resources. The District builds upon the TCCPI model to provide a non-competitive and collaborative environment in which building owners, professionals, and community organizations come together to share best practices and accelerate market transformation in Ithaca’s built environment.

The Ithaca 2030 District provides members with a roadmap and the support they need to own, manage, and develop high-performance buildings by creating new tools, partnerships, and opportunities to overcome current market barriers. This type of collaborative action is not only a strategic undertaking to keep Ithaca competitive in the year 2030, but also represents a major investment in Ithaca’s future and reflects the collaborative nature of our region.

The Ithaca 2030 District is part of the 2030 Districts Network, an independent organization founded by Architecture 2030. The Network includes 23 established, high-performance urban building districts across North America as of the end of 2020.
The Ithaca 2030 District follows the 2030 Challenge for Planning, a series of building performance targets adopted by the 2030 Districts Network to address energy consumption, water consumption, and transportation emissions in the building sector. For existing buildings, the targets are the same for all three metrics: a 20% reduction from baseline by 2020, with incremental targets reaching a 50% reduction by 2030. New buildings must meet the upcoming design target: an immediate 50% reduction in each of the three metrics, and incremental energy targets reaching net zero in 2030. As of 2020, all District Members of the Ithaca 2030 District are considered as existing buildings.

To measure the District’s progress against the 2030 Challenge for Planning, individual property members’ building performance data were collected, analyzed, and aggregated to find the overall performance at the District level. While property-level performance data are only reported to each property member, the District-level performance data are publicly available in order to guide sustainable planning measures for the Ithaca community. The baselines and performance metrics used to benchmark progress are listed in the table below.
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“Measuring energy and water consumption is essential to understand the decarbonization potential that exists in Ithaca's building stock. The information already gathered by the 2030 District is the first step in the new energy efficiency strategy for the city.”

Luis Aguirre-Torres  
Director of Sustainability  
City of Ithaca
THE DISTRICT IN NUMBERS

375,371 SQUARE FEET COMMITTED

29 BUILDINGS COMMITTED

6.25% OF COMMERCIAL BUILDINGS IN THE DISTRICT COMMITTED

PROPERTY TYPE BREAKDOWN

- Educational/Cultural: 23.3%
- Office: 31.5%
- Restaurant: 6.0%
- Mixed Use: 14.0%
- Hotel/Inn: 3.9%
- Other: 0.4%
- Retail: 20.9%
ENERGY UPDATE

Energy data for the Ithaca 2030 District are collected through NYSEG, the local utility, and tracked using the Energy Star Portfolio Manager. After data for the full year were collected, we aggregated building members’ energy data to calculate the District’s overall energy performance. The District Baseline EUI, calculated as the weighted mean of individual buildings’ energy baselines, is 108 kBTU/sq ft.

Our property members demonstrated extraordinary leadership in their commitment to achieving the energy reduction targets. In 2020, all 27 properties (29 buildings) of the District reported energy use data. Sixteen property members have met the 2020 target of 20% reduction, with 7 properties meeting the 2030 reduction target. The average percentage of reduction for all reported properties was 19%. At the district level, the aggregated EUI of 2020 is 84.8 kBTU/sq ft, lower than the 2020 target of 86.4 kBTU/sq ft.

$97K Energy Cost Avoided  
90K lbs CO2e Emissions Avoided  
6,940 Equivalent Number of Young Trees Planted (Each icon represents 350 trees)
ENERGY: REDUCTION FROM BASELINE

WATER UPDATE

In 2020, 26 properties (28 buildings) reported water use data. Eighteen property members have met the 2020 reduction target, with 12 properties meeting the 2030 reduction target. The average percentage of reduction from the baseline for all reported properties was 34%.

The District Baseline WUI, calculated as the weighted mean of all building members’ water baselines, is 25.3 gal/sq ft. This year, we have achieved the 2025 target with a District WUI of 14.5 gal/sq ft. This represents major progress toward meeting the 2030 goal, but we also recognize that 2020 was a unique year, and a significant reduction in water use occurred due to the impact of the COVID-19 pandemic.
TRANSPORTATION UPDATE

Transportation emissions data were obtained via a survey sent to tenants and workers in member buildings. Unlike previous years, our transportation survey in 2020 was designed to capture the commuting changes due to COVID-related shifts in work schedules. Specifically, the survey questions were divided into 3 periods: 1) Pre-COVID (January to mid-March); 2) Lockdown (mid-March through June); and 3) Reopening (July through December). Responses for each period were analyzed separately and then weighted by the number of days to determine the overall transportation emissions for the entire year.
The transportation emissions of the District are benchmarked as the annual emissions of carbon dioxide equivalent (CO2e) per commuter. The baseline is 1501 kg CO2e/commuter/yr. In 2020, we achieved 1172.8 kg CO2e/commuter/yr, below the 2020 target of 1200.8 kg CO2e/commuter/yr.

The COVID-19 pandemic led to a notable decrease in the use of transportation. Almost half (45%) of respondents indicated working from home during Period 2 (Lockdown). In Period 3 (Reopening), this percentage dropped to 32.3%, yet still significantly lower than the pre-pandemic level. As seen in the figure below, the transportation emissions in each period reflected such changes in work schedules.
104 East State St.

Currently a mixed-use building with retail on the first floor and three apartments above, 104 East State St. dates back to the late 1860s and once operated as a clothing store. Today, the building houses Homegrown Skateshop, the only skateboarder-run retail business serving Ithaca.

The building’s current owner, Fred Schoeps, purchased the building in 2011 and then decided to redevelop the upper floors into apartments. The renovation was completed in 2014, under architect Claudia Brenner and general contractor Scott Smith of Latipac Builders. Some main features implemented during the renovation include:

- **Facade Renovation:** Old wooden windows were replaced with energy-efficient windows. Exterior walls and the slanted roof were insulated before the interior walls and ceilings were put in place.
- **Natural Lighting:** A light shaft was installed to minimize requirements for artificial lighting.
- **Electrification:** All appliances were made electric and individual units were provided for each apartment, including heating and cooling units and hot water heaters.

In 2020, the building has already met the 2030 reduction targets for both energy and water performance. The building exemplifies what existing properties are able to achieve by incorporating standard green improvements, and underscores the fact that bleeding-edge technology is not necessary to significantly reduce the carbon footprint of an already existing structure. “Looking back, it really was a simple decision to make a commitment to improve the sustainability of our building,” said Schoeps. “It is one of the simplest ways of giving back to the community and adding economic value.”
Purity Ice Cream

An icon of the Finger Lakes region, Purity Ice Cream was first founded in 1936. As a popular destination for ice cream lovers, the Purity building located at 700 Cascadilla St. houses a mix of restaurant, retail, and office space.

Keenly aware of the energy-intensive nature of ice cream operations, Purity's co-owner Bruce Lane has long been committed to making the business as green as possible. Many sustainable practices were implemented over the years, including:

- **Geothermal**: Four high-efficiency ground source heat pumps/air conditioning systems were installed with programmable thermostats and energy recovery ventilation units. The heat pumps are entirely powered by solar energy.
- **Solar Power**: Purity is one of the first commercial properties in Ithaca to install rooftop solar. It currently has a solar PV system with a capacity of over 35 kW.
- **Facade Renovation**: Improved roof and wall insulation with high-efficiency windows and doors. The new roof is white to mitigate solar gain in the summer, which places the biggest load on HVAC resources.
- **Energy-Efficient Lighting**: LED lighting and new windows were installed to create well-lit rental office space.
- **Site Surroundings**: Reduced overall paved footprint, created extensive landscaping, and installed bike racks near the building to provide a more accessible and aesthetic environment for walking and biking and to improve stormwater runoff mitigation.

These measures have significantly reduced the building's greenhouse gas emissions and enhanced comfort for customers and employees alike. In spring 2019, Solar Tompkins awarded Purity its first HeatSmart Award for Outstanding Earth Stewardship, noting Purity's outstanding achievement in reducing its carbon footprint and promoting sustainable heat pump technology.

“Geothermal is almost like magic,” Lane commented. “Most of the energy for heating comes from the earth and is available for free. And cooling with geothermal is so inexpensive that we could even afford to air-condition the kitchen, something that restaurants rarely do because of the cost.”

Thanks to its green practices, Purity has met the 2030 targets for energy and water performance.
WHO WE ARE

Property Partners

• Alternatives Federal Credit Union
• Argos Inn
• Autumn Leaves Used Books
• City of Ithaca
• Cornell Cooperative Extension - Tompkins County
• Finger Lakes ReUse Center
• GreenStar Co-op
• HOLT Architects
• Homegrown Skateshop
• Ithaca Bakery
• Ithaca Connected / Cascadilla Oasis, LLC
• Kitchen Theatre
• New Roots Charter School
• Paleontological Research Institute & Museum of the Earth
• Petrine Vintage
• Press Bay Alley / Urban Core, LLC
• Printing Press / East State, LLC
• Purity Ice Cream
• Sciencenter
• Taitem Engineering
• Tompkins County
• Tompkins County Chamber of Commerce
• Town of Ithaca
• Travis Hyde Properties
• William Henry Miller Inn

Professional Stakeholders

• Building Performance Contractors Association of New York State
• HOLT Architects
• Performance Systems Development
• STREAM Collaborative
• Taitem Engineering

Community Stakeholders

• City of Ithaca
• Cornell Cooperative Extension - Tompkins County
• Downtown Ithaca Alliance
• HeatSmart Tompkins
• Local First Ithaca
• Park Foundation
• Tompkins County
• Tompkins County Area Development
• Tompkins County Chamber of Commerce
• Tompkins County Climate Protection Initiative
Advisory Board

- Andrew Gil
  Associate, HOLT Architects

- Frost Travis
  President, Travis Hyde Properties

- Lou Vogel
  President, Taitem Engineering

- Conrad Metcalfe
  Executive Director, BPCA of NYS

- Guillermo Metz
  Energy Team Leader, CCETC

- Nick Goldsmith
  Sustainability Coordinator, City of Ithaca & Town of Ithaca

- Darby Kiley
  Associate Planner, Tompkins County

- Jan Rhodes Norman
  Founder, Local First Ithaca

- Peter Bardaglio
  Executive Director, Ithaca 2030 District

- Kaipei (Edward) Chen
  Intern, Cornell University 2021

Staff