



JUNE 2021

# Green Workforce Report

Information and  
recommendations for  
Tompkins County

Collaboratively prepared by the Tompkins County  
Climate and Sustainable Energy Advisory Board

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Lead author: Elliana Pfeffer

Contributions by additional CaSE Board members: Sara Culotta, Alexander Rakow, Terrance Carroll, Brian Eden, Robert Morache, Evan Hallas

## Executive Summary

### *Framing 'Green Jobs' to Meet the Climate Challenge*

- Meeting ambitious climate goals that transition communities away from traditionally higher-paying fossil fuel work requires a meaningful guarantee of family-sustaining jobs for workers.
- Recommended definition of “green jobs”: Green Jobs are jobs with family-sustaining wages and benefits, that are specifically aimed at reversing inequality and tackling the climate crisis by limiting greenhouse gas emissions through energy efficiency and clean energy production and the electrification of transportation.

### *Emissions Reduction Targets and Objectives*

- In the latest version of Tompkins County’s Energy Roadmap, the County prioritized reaching net-zero emissions in the shortest timeline possible.
- New York State’s clean energy initiatives, such as the Climate Protection and Community Leadership Act, are and will continue to drive demand for clean energy workers across our region.
- To meet these objectives, the County will need skilled solar installers, construction workers, energy managers, and contractors to retrofit buildings for greater efficiency and electrification, and to develop clean energy generation, storage and distribution projects.

### *Green Jobs Training*

- Investment in green workforce training remains a promising avenue to meet emissions goals, as employers, workers and state entities are optimistic about the clean energy sector’s capacity for economic growth.
- Workforce development programs must intentionally recruit from and maintain engagement with communities who face barriers to employment so that climate jobs deliver on their promise of offering job opportunities to disenfranchised communities.
- Based on regional resources and emission reduction needs, jobs in weatherization, heat pump installation, wind turbines and sustainable forest management ought to be prioritized.
- There are barely any local clean energy training programs that meet our needs, and most that do are small and in their initial stages.
- We recommend that the TC Workforce Development Board approve the creation of a Green Jobs Training and Diversity Council, to convene labor, business, education and community stakeholders to design and secure funding for a comprehensive green jobs training network of programs to precede on-the-job training.

### *A Green Labor Policy for the IDA*

- We recommend that the Legislature
  - Work collaboratively with the TCIDA to reassess and adapt the Enhanced Energy Policy and base energy abatement policies beginning in March 2022.
  - Recommend that the TCIDA implement a Local Labor Policy where 100% of all project employees are required to reside in Tompkins or contiguous counties, unless a contractor requests and qualifies for a waiver.
  - Recommend that the TCIDA require developers receiving tax abatements to incentivize participation in apprenticeship programs or contribute to a green jobs training fund to support the aforementioned green work readiness program.
  - Recommend that the TCIDA require developers with a total project cost over \$10 million to conduct a Project Labor Agreements Feasibility Study evaluating labor cost savings and potential workforce benefits.

### *Further Data Collection*

- We recommend that the County:
  - Establish a target number and time frame for green job placements in the County based on the Tompkins County Workforce Development Board's best estimate of the number of local people out of work, underemployed and/or working multiple jobs.
  - Refine and publish on the Tompkins Workforce New York and Tompkins County websites lists of current clean energy employers, stakeholders in the climate workforce, and funding mechanisms for green jobs growth. First drafts of such lists are included at the end of this report.

## Introduction

Tackling the climate crisis creates major opportunities for job creation. Transitioning to a carbon neutral economy will require massive efforts to “improve energy efficiency in buildings, lighting, and appliances,” “move from grid-supplied electricity supplied outside of Tompkins County to local renewable generation,” “move from gasoline-powered to electric cars and light trucks and reduce the amount of miles driven,” and “move from natural gas to heat pumps and biomass heating,” as outlined in the 2019 Tompkins County Energy Strategy.<sup>1</sup> Achieving these goals will require hundreds of skilled workers employed in a wide range of clean energy jobs.

Our current COVID-19 economy is both well-primed for and in desperate need of this rapid job creation. As of July 2020, the percentage of unemployed people in the workforce was 9.9%, compared to 2019 levels of 4.2%.<sup>2</sup> We will need to put people back to work at unprecedented rates in 2021 in order to return to the record-low unemployment levels of 2019. Now is the time to mobilize workers into well-paid, high quality jobs in climate mitigation sectors.

Importantly, these green jobs must seek to reverse economic inequality by providing family-sustaining wages and benefits, and prioritizing communities that face barriers to employment (formerly incarcerated people, veterans, Indigenous people, people of color, low-income people, LGBTQ+, women). The stakes for doing so are high. For example, almost three fourths of Black workers in Tompkins County make less than a living wage.<sup>3</sup>

Training and pre-apprenticeship programs should focus on these priority communities, as employers will need on-going support and education to reduce workplace biases that have long kept such communities out of the trades and construction industries. Hiring practices, interview styles, job qualifications, job training affordability and location accessibility, industry reputation, workplace culture, and the job experiences that influence retention all contribute to whether people of color and women are applying to or lasting in green jobs. At present, the clean energy workplace remains dominated by middle-aged white men. Going forward, we must work to make inclusion central to these workplace practices.

The growth of the green economy offers an opportunity to rectify these and other workplace inequities. It is critical we go beyond rhetoric to ensure disenfranchised communities most impacted by climate change actually reap the most benefits from a green transition.

This report is designed to share the findings of the Tompkins County Climate and Sustainable Energy Advisory board and recommend actionable next steps the County legislature can take to realize green workforce development in our area. We explore green job training best practices as well as regulatory mechanisms for improving green job desirability and access locally. Throughout the following pages, we

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<sup>1</sup> “Tompkins County Energy Strategy,” Tompkins County Planning Department, 2019, [https://tompkinscountyny.gov/files2/planning/Energy-Strategy-adopted\\_08-06-19.pdf](https://tompkinscountyny.gov/files2/planning/Energy-Strategy-adopted_08-06-19.pdf).

<sup>2</sup> US Bureau of Labor Statistics: national, state and metropolitan statistical area sources available as of September 1.

<sup>3</sup> Research by Cornell ILR Buffalo, Ithaca Co-Labs, and Tompkins County Workers’ Center.

refer to workforce development as an approach to economic development focused on workers rather than just businesses. In this approach, investment is made in an educated and skilled workforce, which in turn attracts business activity and investment, and draws workers to prioritized sectors.

## Framing ‘Green Jobs’ to Meet the Climate Challenge

Creating meaningful green job opportunities will require thoughtful strategizing. We must garner participation from workers, employers, and the community to ensure that these jobs deliver on their promise to rapidly combat climate change, recover from our economic recession, and reverse structural inequalities. The approach we take to describing green jobs must excite these key stakeholders, and crucially must pay a living wage if they are to attract people into the workforce.

Many of the green jobs definitions the CaSE Board found in its research are quite vague, and therefore not particularly useful. They list “benefiting the environment”<sup>4</sup> or “decent jobs that contribute to preserve or restore the environment”<sup>5</sup> as their main goals, instead of “specifically taking aim at tackling the climate crisis based on ambitious, science-based climate protection policy,” as authors Cha and Skinner suggest in their Cornell University ILR report, *Reversing Inequality, Combating Climate Change: A Climate Jobs Program for New York State*.<sup>6</sup> Their report underscores certain shortcomings in the existing approach to green jobs creation:

“The U.S. has not succeeded in moving green economy jobs from “rhetoric to reality,” although job losses in fossil fuel sectors, particularly coal, are already occurring. The scale of renewable energy, building retrofits, public transit expansion and other aspects of a low-carbon economy remain marginal. [...] The overall lack of jobs in the green economy and the prevalence of non-union jobs in the limited existing green sectors, such as solar and residential retrofitting, have dampened enthusiasm for the long-promised “clean, green economy” among workers and labor organizations that are anxious to address the climate crisis and build a pro-worker, equitable green economy.”

This dampened enthusiasm must be considered when marketing and creating green jobs. If more green sector jobs were union jobs, higher wages and family-sustaining benefits would likely draw more workers, and minimize these feelings of ambivalence towards a transition away from higher-paying fossil fuel work. Investing in workers is critical to realizing our ambitious climate goals and truly growing the green workforce.

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<sup>4</sup> “Measuring Green Jobs,” U.S. Bureau of Labor Statistics, 2013, <https://www.bls.gov/green/#definition>.

<sup>5</sup> “What is a green job?,” International Labor Organization, 2016, [https://www.ilo.org/global/topics/green-jobs/news/WCMS\\_220248/lang--en/index.htm](https://www.ilo.org/global/topics/green-jobs/news/WCMS_220248/lang--en/index.htm).

<sup>6</sup> Mijin Cha and Lara Skinner, *Reversing Inequality, Combating Climate Change: A Climate Jobs Program for New York State*, The Worker Institute, ILR School. 2017, <https://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1064&context=reports>.

In light of this, we suggest the following definition for green jobs to guide the County's workforce efforts in combating climate change:

**Green Jobs** are jobs with family-sustaining wages and benefits, that are specifically aimed at reversing inequality and tackling the climate crisis by limiting greenhouse gas emissions through energy efficiency and clean energy production, and the electrification of transportation.

Although this definition includes a wide variety of industries and sectors, we are limiting the analysis in this paper to jobs in the buildings, energy, and transportation sectors, since these are our primary source of greenhouse gases in NYS. Subsequent analysis may include other industries of relevance to Tompkins County, including high tech and manufacturing along with sustainable agriculture and forestry management to actively sequester carbon.

## Emissions Reduction Targets and Objectives

Tompkins County has published multiple reports and documents to outline greenhouse gas emission reduction objectives and the necessary actions to achieve those changes. All these actions require a skilled workforce, and come with clear opportunities to create 'green jobs' as we define them here.

In 2016, Tompkins County produced its Energy Roadmap to describe scenarios by which the county can achieve an 80% greenhouse gas reduction goal by 2050, against a 2008 baseline of GHG emission levels, while meeting its growing energy needs.<sup>7</sup> Th these goals around four objectives applicable to both internal County operations and the community:

1. *Improving energy efficiency in buildings, lighting and appliances.*
2. *Moving from grid-supplied electricity generated outside of Tompkins County to local renewable generation.*
3. *Moving from natural gas to heat pumps and biomass heating.*
4. *Moving from gasoline-powered to electric cars and light trucks and reducing the number of miles driven.*

To meet these objectives, the county will need skilled solar and heat pump installers, construction workers, energy managers, and contractors to retrofit buildings for greater efficiency and electrification. Even the move to electric vehicles will require a skilled workforce to site and install the infrastructure necessary to make the electric vehicle value proposition work for both personal and commercial applications.

Below we detail recommendations for developing a successful green workforce program in Tompkins County. Each recommendation either develops a wider pipeline to these jobs, improves the quality and

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<sup>7</sup> *Tompkins County Energy Roadmap: Evaluating Our Energy Resources*, Tompkins County Planning Department, 2016, <https://tompkinscountyny.gov/files2/planning/Energy-greenhouse/Energy%20Roadmap%20All.pdf>.

desirability of green jobs, or enables the development of more data-gathering to support green workforce development.

## Green Jobs Training

### *Introduction*

Building a strong workforce equipped to meet the enormous challenge of the climate crisis will require investment and immediate action to train new and existing workers and employers. We will need clean energy pipeline programs, expanded apprenticeships and on-the-job training opportunities as well as specialized pre-apprenticeships to meet the evolving need of industry. Despite economic pressures from COVID-19, the need for investment in green job training remains high, with the clean energy sector poised to become a cornerstone for our economic resurgence statewide.

New York State is already making robust investments in job training in the clean energy sector. Governor Cuomo recently committed approximately \$700 million to electrification efforts, which includes \$38 million to support building electrification training for 14,000 individuals by 2025 to work in new heat pump markets. These funds are likely to be disbursed via NYSERDA grants. NYSERDA has already dedicated over \$100 million in funding to support clean energy workforce training. Funding is available for a wide range of training initiatives, including those that reduce the overhead cost of hiring workers new to the industry; retrain existing workers with green skills; help cover the cost of on-the-job training; train contractors; and support internships.

NYSERDA predicts the clean energy industry will lead the state's economic recovery and provide new job placements. In its 2020 Clean Energy Industry Report, NYSERDA writes, "the majority of employers [statewide] expect their headcount to remain steady in 2021 and more employers expect to grow than decline, acknowledging this is nowhere near the level of optimism reported by employers in prior years." There are important hurdles to be overcome, but this indicates that the clean energy sector is well situated to propel us forward into both economic recovery and a critical green transition.

Locally, optimism for new green job training programs remains high. Many clean energy employers have identified an enduring labor shortage and an ongoing capacity for hiring new employees. According to Jon Harod of heat pump installation contractor Snug Planet, "The demand for heat pumps is off the charts right now, there are great incentives, and there is definitely a labor shortage (for installer and service tech work) in that area." Even for smaller contractors without current capacity for expansion, like LaMorte Electric, bringing on new hires remains a goal for the future and the need for re-training existing employees on emerging green technologies remains high.

This need for green job training in our County goes hand in hand with the critical need to enable diverse participation across race, class and gender to enter and succeed in the building trades and construction



industries. Without any centralized training resources or hiring halls to serve as pipelines to these jobs, “contractors often hire through their social networks, which is not likely to provide access to priority populations,” says Brian Eden of Heatsmart Tompkins. This underscores a more general need to deliberately bring disenfranchised people into the trades.

In order for green jobs to deliver on their promise of eroding inequalities, training programs must intentionally recruit from, partner with and prioritize communities who face barriers to employment (those recently incarcerated, people of color, low-income and LGBTQ+ people, and women). To do so, these programs must employ a variety of recruitment tactics, including partnership with existing community organizations, and targeted marketing or recruitment tactics. Training programs must also offer affordability and accessibility by considering transportation, childcare, required tools of the trade, and program cost.

### *Critical Skills and Sectors for Our Region*

There are countless jobs that are important to climate mitigation and adaptation. In order to help narrow our focus, some of the jobs and skills that will be most necessary in the future are listed below. For this analysis we focused on those that are most crucial for lowering emissions, and do not require a college degree.

**Weatherization/Energy Efficiency Technician** - When accounting for the full life-cycle impacts of methane, the building sector is the largest source of emissions for most municipalities in Tompkins County and the Southern Tier. Not only do we need to electrify our buildings, but because our building stock largely consists of older buildings, many will also have to be retrofit and made more efficient. Weatherization and energy efficiency contractors and technicians will play a pivotal role in upgrading our building stock to allow for efficient electrification. Critical skills in this industry include:<sup>8</sup>

Building and Construction	Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
Client and Personal Service	Knowledge of principles and processes for providing client and personal services. This includes client needs assessment, meeting quality standards for services, and evaluation of client satisfaction.
Mechanical Knowledge	Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

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<sup>8</sup>[Occupation Profile for Weatherization Installers and Technicians](#)

Administration and Management	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.
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**Heat Pump Installers/Contractors** - Tompkins County and New York State cannot meet their respective climate goals without electrification of the building sector, specifically in space heating for the residential and commercial sector. Traditional boilers and furnaces need to be converted to air-source or ground-source heat pumps to help transition our buildings from fossil fuel-based heating to efficient electric heating. Millions of homes across New York State will have to transition their heating system to heat pumps, making this field one of potentially explosive growth. Critical skills in this field include<sup>9</sup>:

Residential Installation Skills:	<ul style="list-style-type: none"> <li>● Knowledge and understanding of HVAC low and high voltage systems</li> <li>● Basic math skills</li> <li>● Ability to safely use residential HVAC/R gauges and electrical test equipment</li> <li>● Familiar with the principles of evacuation</li> <li>● Ability to balance air flow</li> <li>● Knowledge of sheet metal practices</li> <li>● Proficient in reading field drawings</li> <li>● Proficient in the safe use of hand and power tools</li> <li>● Ability to work at heights and on ladders</li> <li>● Ability to work in confined spaces, attics, &amp; basements</li> </ul>
For Commercial Installation Add:	<ul style="list-style-type: none"> <li>● Ability to safely use scissor/power lifts</li> <li>● Ability to read and understand blueprints and schematics</li> <li>● Ability to interpret diagrams, drawings and equipment manuals</li> </ul>
Mechanical Knowledge	Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
Physics Knowledge	Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub- atomic structures and processes.

**Wind Turbine Service Technician** - Tompkins County may not be the best suited for large-scale wind generation, but there remain opportunities in neighboring areas as well as in small commercial and residential applications. The approval of a 100 MW wind farm in neighboring Chenango County on March 11th, 2021 is just the first of 11 new wind projects slated for the Southern Tier, Fingerlakes, and Western and Central New York region, for a total of over 1300 MWs. These wind farms will need

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<sup>9</sup> [HVAC Career Map](#)

qualified technicians and could prove to be a meaningful source of clean energy jobs for the region. Critical skills for this occupation include<sup>10</sup>:

Mechanical Skills	Wind technicians must understand and be able to maintain, troubleshoot and repair all mechanical, hydraulic, braking, and electrical systems of a turbine.
Physical Stamina	Wind technicians must be able to climb on ladder systems to the height of turbine nacelle, often with tools and equipment. Some tower ladders may be 260 feet high or taller. Therefore, wind technicians should be able to work for long periods without tiring easily.
Physical strength	Wind technicians must lift and climb with heavy equipment and parts and tools. Some weigh in excess of 45 pounds.
Troubleshooting skills	Wind technicians must diagnose and repair problems. When a turbine stops generating electricity, technicians must determine the cause and then make the necessary repairs.
Comfort with heights and confined spaces	Service technicians often must repair turbines that are at least 260 feet high. In addition, technicians must work in confined spaces in order to access mechanical components of the turbine.
Documentation	Wind technicians must document and submit reports on the results of testing, inspections, repairs, or problems they find when carrying out inspections and repairs. Their writing must be clear and well organized so that others can understand the reports.

**Forest and Conservation Workers** - Getting to zero emissions is nearly impossible without some form of carbon capture - either through new technology or through natural sequestration. Utilizing sustainable farming techniques and natural resource management will be critical to sequestration efforts, especially as we seek challenging emissions reductions from industry. Even if humans were to cease emitting any additional greenhouse gases, the amount of emissions that have already been released make additional conservation, or, at the very least, preservation of our existing resources, paramount. Forest and conservation workers will be an important but often overlooked labor sector. Critical skills include<sup>11</sup>:

Ecology / Geography	The science of conservation requires knowledge of the physical and biological characteristics of the local environment, and the interdependencies of natural systems.
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<sup>10</sup> [Career Map: Wind Technician](#)

<sup>11</sup> <https://www.careeronestop.org/Toolkit/Careers/Occupations/occupation-profile.aspx?keyword=Forest%20and%20Conservation%20Workers&location=UNITED%20STATES&lang=en&frd=true&onetcode=45401100>

Forestry	The skilled and sustainable management of forest resources is essential to maximizing the value of forest resources to neighboring communities, and ensuring that they are conserved and continue to sequester carbon.
Clerical	Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.

These are just a few potential areas of green workforce growth. Dozens of other industries are likely to grow, and we must be prepared to adapt our workforce to meet their needs. The website [www.careeronestop.org](http://www.careeronestop.org) from the U.S. Department of Labor was an important resource for this early analysis. The website includes an entire section on “Green Careers” including information on more than 200 green careers over 12 separate sectors. More information can be found at: <https://www.careeronestop.org/GreenCareers/green-careers.aspx>

### *Model Programs Across NYS*

We have identified three case studies of clean energy training programs that have won NYSERDA grant funding through the Energy Efficiency and Clean Technology Training Program ([PON 3981](#)) to help illuminate what successful training programs of relevance to Tompkins County could look like.

Key qualities of these model programs include:

- Targeted recruitment of disenfranchised, recently incarcerated, or otherwise underrepresented communities
- Focus on energy efficiency, green buildings, and/or clean energy work
- Integrated on-the-job training and in-the-classroom programming
- Partnerships with community organizations who already work with low-income communities
- Mentorship opportunities
- Curriculums that bridge environmental literacy and technical knowledge

See for the brief case studies below:<sup>12</sup>

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<sup>12</sup> [nyserdera.ny.gov/All-Programs/Programs/Clean-Energy-Workforce-Development/Example-Training-Projects](http://nyserdera.ny.gov/All-Programs/Programs/Clean-Energy-Workforce-Development/Example-Training-Projects)

## Energy Bootcamp



"Green City Force (GCF) is developing an Energy Bootcamp for graduates (ages 18-24) of its AmeriCorps workforce preparedness program. The training is based on a "pre-apprenticeship" framework, offering exposure, basic foundation training and hands-on experience as well as a direct connection to industry for full-time employment. The Energy Bootcamp prepares participants for residential energy efficiency retrofits serving low-to-moderate income families and builds on its Green Building Professional (GPRO) certification as well as its ROOTS of Success environmental literacy program. Bootcamp graduates have the opportunity to move on to more advanced technical trainings and/or gain employment with GCF's energy service partner companies, including Franklin Energy, Ameresco, and Constellation," NYSERDA's description reads

**PARTICIPANT TARGET: 145**

**EMPLOYS ROOTS TO SUCCESS CURRICULUM**

Located in NYC, Green City Force works directly with the New York Central Housing Authority in order to focus recruitment on those living in public housing. They host recruitment events right outside the homes of low-income Black and brown people, and engage directly with the community through door-knocking and building community gardening projects. By partnering directly with employers, a job pipeline is also immediately created.

The Roots to Success curriculum, which will be employed here, was also recommended locally by Get Your Green Back Tompkins interns in Summer 2020. The program is nationally-reputed as an excellent activity-based environmental literacy curriculum, which should prove to be a model for success alongside more technical training.

## Green Collar Prep



"Nontraditional Employment for Women (NEW) is developing a new, training program to prepare low-income women, particularly women of color, for jobs and apprenticeships in the green collar economy. Offered free of charge to participants, "Green Collar Prep" (GCP) will build on the foundational skills acquired in NEW's core apprenticeship program, Blue Collar Prep and NEW at Night, by integrating content directly linked to sustainability and efficiency practices and providing students with comprehensive training in environmental literacy and construction techniques. GCP will encompass skills training, soft skills workshops, physical conditioning, mentoring and networking opportunities with subject matter experts, and site tours that focus on environmental stewardship in the construction industry. GCP will further provide students with connections to necessary training certifications as well as employment opportunities with apprenticeship partners and contractors."

**PARTICIPANT TARGET: 75**

**DIRECT FOCUS ON UNDERREPRESENTED GROUPS**

This program stands out for its deliberate action to target priority populations underrepresented in the green collar construction fields. Given strong cultural biases against women and people of color in the construction industry generally, it is critical to be pro-active in recruiting priority populations to green jobs if we are committed to reducing economic inequities.

### *Existing Clean Energy Training Programs Locally*

As of 2020, NYSERDA has identified six clean energy job training programs in Ithaca. However five of them focus on white collar professional training for architectural, engineering, or managerial jobs, and don't address our greatest needs: heat pump installation, solar/wind installation, weatherization and energy efficiency workers. There is one additional program not listed by NYSERDA, which provides training in heat pump installation. One other known clean energy training program in the County is currently in a pilot

phase, but should inform the County’s considerations for expanding and developing new programs in the area. See the table below for an expanded list of current existing clean energy programs.

<b>Program</b>	<b>Provider</b>	<b>Program Type</b>	<b>Occupational Focus</b>	<b>City</b>
Architectural Studies (B.A.)	Ithaca College	4 year college/university	Architecture	Ithaca
Undergraduate Architecture Program	Cornell University	4 year college/university	Architecture	Ithaca
Master of Engineering in System Engineering	Cornell University	4 year college/university	Engineering	Ithaca
Construction and Environmental Technology	Tompkins Cortland Community College	Community college	Construction	Dryden
Engineering Science	Tompkins Cortland Community College	Community college	Engineering	Dryden
Electrical - Inside Wireman	JATC of Ithaca	Union	Electrical	Ithaca
Energy Warriors Pilot	Cornell Cooperative Extension	Non-profit	Weatherization	Ithaca
Heat Pump Training	HeatSmart Tompkins	Non-profit	Heat pump installations	

While each of these programs illuminate a thriving local clean energy training landscape, they point to a predominant focus on professional and white collar jobs. Even the Construction and Environmental Technology program at Tompkins Cortland Community College (TC3) focuses on careers in energy auditing, project management, contracting, civil drafting, surveying, architectural drafting, and environmental engineering. These jobs, while relevant to building our clean energy future, are not where the greatest need lies for job creation for the green transition.

Currently, the only existing programs focused on the aforementioned targeted skill sets necessary for climate mitigation are the HeatSmart Trainings in heat pump installations, Energy Warriors Pilot, and JATC Electrical programs. More specifically, HeatSmart has developed curricula, delivered webinars and online instruction in heat pump installations, and conducted field training to reinforce best practices. They have used on-the-job training to establish a pipeline of qualified students prepared to be employed as clean energy technicians. HeatSmart Tompkins is preparing a grant application to NYSERDA in conjunction with TST BOCES to support these programs.

The Cornell Cooperative Extension (CCE) Energy Warriors Pilot program focuses on building insulation and weatherization techniques, with on-the-job training experience offered through the integrated ReUse Reset Apprenticeship program at Fingerlakes ReUse. The classroom sessions are modeled on both the

“Roots of Success” training curriculum, which covers general environmental literacy and soft skills, and the US Dept of Education EERE Weatherization training curriculum. Classroom sessions are taught by Aloja Airewele who we highly recommend be brought into forthcoming conversations. Importantly, the Energy Warriors program is geared specifically at disenfranchised persons who face barriers to employment including those reentering from prison.

The JATC program similarly combines on-the-job training with classroom learning, consisting of 900 hours of coursework and 8,200 hours of apprenticeship experience. The classroom learning for this program is oriented toward technical and safety-focused knowledge, and while the program does incorporate curricula on the newest environmental technologies an environmental literacy element is missing. Nevertheless the program has been a longstanding asset to workers in the community. It could play an essential role in growing the County’s green job training landscape going forward.

### *Key Stakeholders in Clean Energy Pre-Apprenticeships*

**Tompkins County Government and Workforce Development Board** The most important role for local government in green job training is to provide financial support. For example, the new Ulster County sponsors the SUNY Ulster Green Jobs Career Academy, and the City of New York sponsors the NYC Green Jobs Corps. The TC Workforce Development Board can play a major role in data collection, grant writing, etc., and allocating government funds towards job creation is common sense for stimulating a post-pandemic economic recovery.

**Tompkins County Building Trades**. Building trades unions run successful apprenticeship programs housed in existing physical training facilities. Working together on pre-apprenticeship training would ensure differentiation between pre-apprenticeship and apprenticeship curricula, since the new programs would be intended to serve as an intentional on-ramp to union apprenticeships or other on-the-job training programs outside the unions’ domain.

**TST BOCES, TC3, and HeatSmart Tompkins** Both the Tompkins-Seneca-Tioga Board of Cooperative Educational Services and Tompkins County Cortland Community College are critical stakeholders because of their existing curricula and infrastructure. Both institutions could offer classroom space and a pathway to accessing a student body that is already seeking out technical and professional education. Matt Fellman, an instructor in Physics at TC3 as well as Ithaca High School, has expressed interest in helping to make a green workforce pre-apprenticeship program successful. Other administrators at TC3, specifically those on the TC Workforce Development Board, have also expressed interest in collaboration.

In January 2020, Brian Eden of HeatSmart Tompkins worked with BOCES to organize orientation sessions on heat pump installation for their career training program students. A series of programs were scheduled for late March but were cancelled due to the pandemic. Planning has renewed this year, and staff have approved the initiation of a Fall Adult Education program. There will be an introductory offering on the Basics of Heat Pump Installations (20 hours) followed by an EPA Section 608 Certification program for the

appropriate servicing or disposing of high- or very high-pressure appliances (refrigerant materials) (30 hours). HeatSmart Tompkins is in the process of developing curricular materials and a lab containing the relevant equipment and tools.

**[Black Hands Universal](#)** This nonprofit led by longtime community organizer and former tradesman Harry O. Smith is currently working to set up a pre-apprenticeship program in collaboration with the Northeast Region of Unions, the City of Ithaca and Business Leaders of Color, geared at providing resources to prepare Black and brown and Indigenous people to enter the trades and gain financial stability. The organization provides job placement, financial literacy training, mental health resources, and wellness opportunities. Its established connections to the Black and brown communities in Ithaca make it important to future conversations on green jobs.

**[CCE Energy Warriors Pilot Program](#)** As the only existing training program focused on environmental literacy and recruitment of disenfranchised communities locally, facilitators of this pilot, specifically Aloja Airewele and Karim Beers, will have critical insights to contribute to the conversation of what a robust green jobs training ecosystem can look like locally.

**[NYSERDA](#)** As mentioned in the introduction, NYSERDA is already playing a crucial financing role for green job training programs in New York State, with about \$800 million in funding dedicated for the purpose. These funding pathways should be pursued locally.

**[Tompkins Workforce](#)** Tompkins Workforce provides financial support for those engaged in this type of training, up to \$3,000 of tuition costs and up to \$2,000 for transportation or other expenses for individuals who are income eligible. This money comes from federal Workforce Innovation and Opportunity Act funding, which is channeled through the NYSDOL to the Tompkins County Workforce Development Board, which then directs it to Tompkins Workforce. They are also able to contribute to the wages of individuals in on-the-job training (OJT) programs, similar to NYSERDA, once a student graduates from the proposed TC3 program into an apprenticeship or other OJT program.

### *Available Funding for Green Workforce Development*

Agency	Program	Description
NYSERDA	On-the-job Training for Energy Efficiency and Clean Technology (PON 3982)	On-the-job training for HVAC, solar, etc. to reduce financial risk of hiring/training new employees.
NYSERDA	Energy Efficiency and Clean Energy Technology Training (PON 3981)	Training for colleges, unions, distributors, and community organizations.



Agency	Program	Description
<b>NYSERDA</b>	Clean Energy Communities program (consult with regional CEC Coordinator for specifics)	Direct technical support to communities/governments with clean energy leadership.
<b>NYSERDA</b>	Affordable Solar and Storage Predevelopment and Technical Assistance (PON 3414)	Serves low-to-moderate income households facing barriers to solar installation.
<b>NYSERDA</b>	Clean Energy Training Services (RFQL 4145)	Establish contractors qualified to train/teach/provide expertise on energy workforce development
<b>NYSERDA</b>	Clean Energy Internship Program (PON 4000)	Funding to clean energy businesses or organizations hiring interns to perform meaningful work in the clean energy sector.
<b>U.S. Environmental Protection Agency</b>	FY2021 Environmental Workforce Development and Job Training (EWDJT) Grants	Funding for job training programs that recruit unemployed residents to work in the environmental field.
<b>NYS Department of Labor</b>	CFA Program 436, NYS Department of Labor Unemployed/Underemployed Worker Training	Funding for eligible organizations that can assist the department by providing occupational skills training for unemployed/underemployed individuals.

### *Our Recommendation*

Keeping in mind the local green job training gap, the CaSE board recommends the creation of the “Green Jobs Training and Diversity Council” in order to explore developing a comprehensive green work readiness program based at an institution like TC3, BOCES, or elsewhere, to precede local on-the-job training in the clean energy sector. Such a program could serve to expand the pipeline of applicants to green jobs, act as a support hub for new green workers, and help the County achieve its emissions reduction goals. It could support new and existing training courses focused on environmental literacy, safety protocols, and industry specific knowledge related to various career pathways. It could also enable the development of employer and contractor support programs. Locating such a training program in an established institution could ultimately help new and existing programs generate long term financial stability.

Any green work readiness program of this scale and ambition will require buy-in from a variety of stakeholders, especially the host institution and the Building Trades Council. It thus makes sense to form a Green Jobs Training and Diversity Council to facilitate the creation of this program before a precise vision is determined.

The main tasks of such a council could include:

- Evaluating the feasibility of practicality and interested of TC3 and the Building Trades Council in leading this program
- Appointing an initial grant writer to secure NYSERDA funding to support the program
- Developing a program structure (microdentials, degree program structures are possibilities) and curriculum through more in-depth research on existing green work readiness program models
- Facilitating the certification of the program with Department of Labor for Direct-Entry into existing apprenticeships
- Developing the financing structure for such a program, including budgetary allocation from Tompkins County and potential grant writing support from the TC Workforce Development Board
- Creating additional job placement infrastructure as deemed necessary by the Council, potentially to include coordination with employers

***We recommend the Legislature approve the creation of the Green Jobs Training and Diversity Council***

# A Green Labor Policy for the IDA

## *Introduction*

Incentivizing tax-abated development projects to use clean energy, hire locally, use project labor agreements, and help pay into apprenticeship programs is a common sense approach to growing the local green workforce. When projects that receive abatements prioritize local workers and the environment, green construction jobs become generally more stable and desirable. Creating job pipelines such as those outlined above is crucial to growing the green economy. Yet, we cannot effectively combat climate change in our community until we regulate green jobs to be good, safe, desirable local jobs. Recommending the Tompkins County Industrial Development Agency (TCIDA) adopt strong labor provisions in their financial assistance application is an important step the County can take to incentivize green jobs growth in the private sector.

Without either land use authority or a publicly owned land bank, the County lacks the power to directly regulate privately funded industry in order to create green jobs. However, private developers receiving tax exempt status, even for a period of time, have a corresponding duty to the County community, our local workforce system and our climate goals. In lieu of tax payments, these developments ought to guarantee tangible public benefits and accountability.

IDA development projects already set industry labor standards in the clean energy and building trades sectors at large. This is because of the relative scale, abundance and energy efficiency of these projects. Thanks to strong existing IDA energy policies, many of these projects are green— they are required to heat pumps, and many even comply with the Ithaca Energy Code Supplement. A significant quantity of the IDA projects are solar projects.

Although the IDA does not finance small-scale clean energy retrofit projects, which are critical to emissions reductions, the same workers who work on larger tax-abated projects can and do work on smaller scales. Labor policies set by the IDA have the power to impact the labor practices of smaller contractors.

Recommending that the IDA adopt a policy encouraging tax-abated projects to hire locally, use apprenticeship language and incentivize project labor agreements can help ensure industry standards make green construction jobs safe, desirable and well-paying. County legislators make up about half of the IDA and therefore such a recommendation by the County itself would have significant impact.

With regards to timing, now is the appropriate time to make recommendations. The TCIDA Board recently created a Local Labor Subcommittee with the goal of drafting a policy relating to the local workforce, so these topics are being raised now. The CaSE board suggests the County recommend the policies argued and described below to the IDA.

## *IDA Labor Seat Appointment*

We commend the efforts made in December 2021 to appoint a representative of organized labor to the Tompkins County IDA, inspired by a recommendation in initial drafts of this report. Such an appointment recognizes that promoting economic justice and long-term green job prospects for local community members necessitates labor input and leadership around design and implementation. It also aligns Tompkins County with its peers in Chautauqua, Monroe, Broome, Erie and Chemung Counties, which all have labor appointees on their IDAs.

The County can translate this appointment into substantive action to support the local green workforce by supporting the policies delineated below, which have been crafted in direct collaboration with trades representatives including Todd Bruer, the new IDA labor representative and president of the TC Building Trades Council.

## *Local labor*

Hiring locally both keeps money in our local economy and enables local green workers to reap the benefits of our energy transition. While the TCIDA has long encouraged applicants to hire locally, in practice this has occurred inconsistently. The IDA currently has a Local Labor Utilization Policy. This policy is a good step in the right direction because it requires contractors to report on their local labor usage, and document local bid solicitation. However, it also states that, “There is no minimum or maximum local construction labor utilization requirement.” As a result, many developers that receive abatements do not hire locally.

### Strong Precedents for Binding Local Labor IDA Policies

Throughout New York State, counties of widely varying population sizes have implemented binding local labor policies in their IDA applications. Notably, every binding local labor policy in New York State for counties with at least 60,000 residents requires a percentage of 70% or greater of the project employees to reside in the Local Labor Area, which is usually defined to include the contiguous counties. Multiple counties with populations ranging from 60,000 to 90,000 have binding local labor policies that require 70% or more project employees to reside in the Local Labor Area.<sup>13</sup>

For example, in Cayuga County, which has a population of around 80,026 people, the local IDA requires 65% of all project employees of the general contractor, subcontractor, or subcontractor to the subcontractor (collectively “the Workers”) to reside within Cayuga County, not even within the contiguous

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<sup>13</sup> Research done by CaSE Advisory Board.

counties.<sup>14</sup> This demonstrates the possibility for a county smaller than Tompkins County to employ strong local labor requirements without depending on largely populated surrounding counties. The Cayuga County policy then also requires an additional 20% of the Workers to reside either in contiguous counties, which includes Syracuse, or Cayuga County. The remaining 15% of the Workers are required to reside in New York State. This policy is a strong demonstration of pro-worker values. Notably, Cayuga County does not require the contractors or subcontractors themselves to be locally sourced as long as the employees are.

In Genesee County, which has a population of around 60,079 people, they require 90% of total project employees, excluding project managers, to reside within their Local Labor Area.<sup>15</sup> Chemung County, with a population of 88,830, has a similar policy where they require the use of local general contractors, subcontractors, laborers, and suppliers for 70% of the total cost of construction for new, expanded, or renovated facilities.<sup>16</sup> Monroe County<sup>17</sup> and Onondaga County<sup>18</sup> require 100% local labor, Dutchess County requires 80%<sup>19</sup> and Erie County requires 90%.<sup>20</sup>

Most existing binding local labor policies recognize there are many scenarios where workers residing within the Local Labor Area may not be available with respect to a project. In those cases, developers can apply for a waiver that allows them to use more non-local workers than is outlined in the policy. Waivers often apply to (i) warranty issues related to installation of specialized equipment or materials whereby the manufacturer requires installation by only approved installers; (ii) specialized construction for which qualified Local Labor Area Workers are not available; or (iii) documented lack of Workers meeting the Local Labor Area requirement. In certain policies, a waiver may also be granted if there is a cost differential of at least 20% between local and non-local services.

In Cayuga County, a documented lack of workers may only be ascertained after general contractors reach out to the Cayuga Central Labor Council, CNY Area Labor Federation, and Cayuga Works Career Center.<sup>21</sup> In Broome County, the general contractor must solicit bids locally and submit a form explaining any reasons why those bids did not work out. This is a good strategy for ensuring accountability when

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<sup>14</sup> "IDA Documents and Policies," Cayuga County Industrial Development Agency, Accessed November 9, 2020, <http://cayugacountyida.org/documents>. See "Application for Financial Assistance, page 19.

<sup>15</sup> "Application for Financial Assistance," Genesee County Economic Development Center, 2016, [http://www.gcedc.com/application/files/1715/4047/6740/GCEDC.Final\\_application\\_new\\_pricing\\_policy.2018.pdf](http://www.gcedc.com/application/files/1715/4047/6740/GCEDC.Final_application_new_pricing_policy.2018.pdf).

<sup>16</sup> "Local Access Policy," Chemung County Industrial Development Agency, 2018, <http://chemungcountyida.com/wp-content/uploads/2018/07/CCIDA-Local-Access-Policy.pdf>.

<sup>17</sup> "Application for Assistance," County of Monroe Industrial Development Agency, 2020, <https://monroecountyida.org/wp-content/uploads/COMIDA-Project-Application-20-1.pdf>. See page 9.

<sup>18</sup> "Application for Benefits," Onondaga County Industrial Development Agency, <https://www.ongoved.com/assets/Uploads/files/downloadablefiles/OCIDA-Application-Edited-1-24-20-web.pdf>. See page 12.

<sup>19</sup> "Local Workforce Utilization Policy," Dutchess County Industrial Development Agency, 2020, <https://thinkdutchess.com/wp-content/uploads/2020/01/IDA-Local-Workforce-Utilization-Policy-v3.pdf>.

<sup>20</sup> "Local Labor Workforce Certification," Erie County Industrial Development Agency, 2013, <https://www.ecidany.com/documents/ECIDALocalLaborPolicy.pdf>

<sup>21</sup> "IDA Documents and Policies," Cayuga County Industrial Development Agency. See "Application for Financial Assistance," page 19.

developers apply for a waiver to denote a documented lack of workers. That said, bid solicitation might be too stringent a process for documenting lack of workers, since it does not necessarily encompass use of out-of-town subcontractors, such as many of the union subs, that do hire local project employees.

The main objective of the binding local labor policy is to incentivize the utilization of local workers when they are available, not to make the project impossible to complete without a sufficient local workforce. By requiring developers to go through additional hoops in order to hire workers from out of town, the IDAs with binding local labor policies incentivize local job creation, while still reinforcing their commitment to economic development.

IDAs across the state have also adopted different ways for enforcing compliance with the local labor percentage requirement and policy waiver system. A typical model is for the IDA to require local labor utilization reports prior to the start of construction activities, as well as monthly or quarterly and post-project reporting. Luckily, Tompkins County already implements a monthly reporting system on local labor, which seems best to continue using for policy accountability. In some counties, random spot checks are also implemented by a Certified Public Accounting firm to ensure compliance through verification of payrolls or on-sight review.

In cases where compliance with the policy is not being met, there are various possibilities for implementing consequences to ensure accountability. In Erie County, the IDA sends written notice to the project applicant. The project applicant then has 10 business days to either: “(i) provide written confirmation to the IDA indicating that it has cured the violation and is now in compliance with the Local Labor Requirement; (ii) submit the Local Labor Waiver Request as described above; or (iii) confirm in writing its inability to meet the Local Labor Requirement. If the Project applicant does not respond to the Agency’s Notice of Violation, or if the Project applicant confirms its inability to meet the Local Labor Requirement then the Agency shall immediately terminate any and all Financial Assistance being provided to the Project in accordance with the terms of the underlying agreements between the Agency and the Project applicant with respect to the Project.”<sup>22</sup>

Allowing the recapture or termination of financial assistance in the case of noncompliance is a common sense approach to enforcement— especially when companies are already allowed time to address noncompliance through waiver applications or adapted local hiring practices. The possibility of requesting a waiver ensures sufficient flexibility, and continued noncompliance upon receipt of a written notice would indicate irresponsible use of the public tax break. Strategies for enforcement that entail even more leniency would not sufficiently address the goal of a binding local labor policy, which is to incentivize the creation of local jobs in a way that still ensures economic development.

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<sup>22</sup> “Local Labor Workforce Certification,” Erie County Industrial Development Agency, 2013.

## Analysis on the Feasibility and Need for a TCIDA Binding Local Labor Policy

In Tompkins County, IAED staff are currently pulling data from previous IDA labor reporting for the Local Labor IDA Subcommittee.<sup>23</sup> The preliminary report includes statistics on general local workforce data from the three largest trades in the area (electricians, carpenters, and plumbers), as well as analysis on local labor data from three recent large tax-abated projects. Before diving into the important information outlined in the report, it is important to describe its limitations in scope. The data is not representative of all trade professions. The report also does not include full statistics on union vs. non-union hiring practices, or statistics on the costs of transportation, meals and housing for out of town workers. Despite these limitations, the report outlines crucial insights.

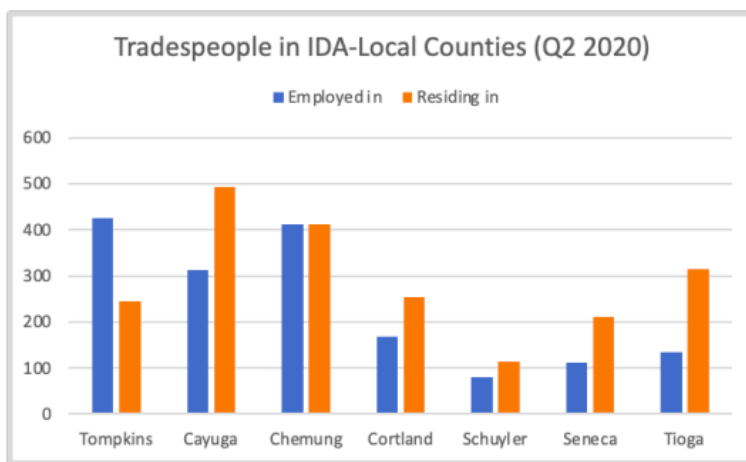


Fig. 9. Tradespeople by IDA-local county, Q2 2020.

The preliminary report notes that “more tradespeople reside in the IDA-local labor area than are employed there,” where the local labor area is defined in the 2016 Local Labor Utilization policy with inclusion of the counties contiguous to Tompkins: Cayuga, Chemung, Cortland, Schuyler, Seneca, and Tioga.<sup>24</sup> This suggests that while a substantial number of workers reside in the Local Labor Area, many are leaving the Local Labor Area for work. One would infer that our local labor supply exceeds demand, however this does not account for the full picture. Since many local projects use out-of-town workers, there is actually a mismatch between local labor supply and demand.

Indeed, a substantial amount of developments are taking place in Tompkins County (as shown in figure 9), and of those that have received tax abatements, there are wide discrepancies in the usage of local labor. For example, on the City Center \$52,713,000 project, only 33% of project employees were local workers. Yet, on the Harold Square project, which was a similar size at \$43,000,000, approximately 67% project employees were local workers. While one may assume the average wages on the project that used

<sup>23</sup> Kurt Anderson, “Tompkins County IDA Local Labor Subcommittee: Local Labor Report,” Tompkins County Area Development, 2020.

<sup>24</sup> Anderson, “Tompkins County IDA Local Labor Subcommittee: Local Labor Report,” 8.

less local labor would be higher, they were actually \$3 less per hour when they hired locally (see figures 2 & 3).<sup>25</sup>

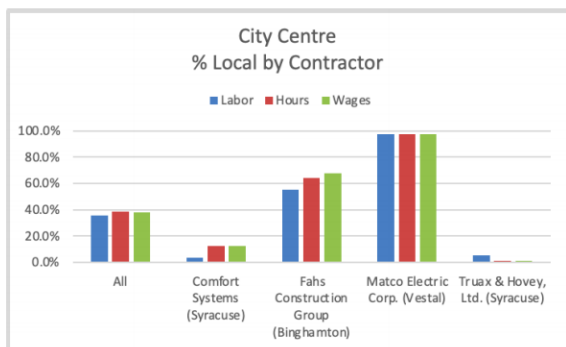


Fig. 2. Percent local (total) and percent local by contractor, City Centre, Ithaca, NY.

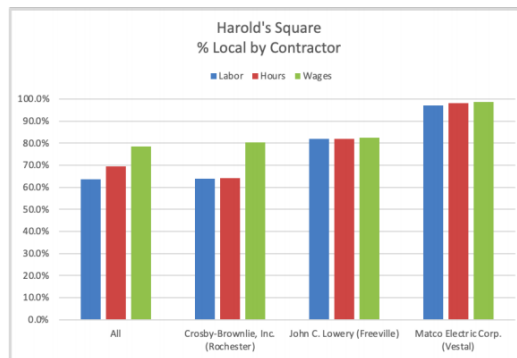


Fig. 3. Percent local (total) and percent local by contractor, Harold's Square, Ithaca, NY.

It is usually easier for developers to hire contractors with whom they have worked in the past, and often that comfort with a contractor trumps regard for their local hiring practices. Importantly, this does not always even guarantee cheaper rates. As mentioned above, a project with far less local labor (City Center) actually paid an average \$3 higher in wages than a project that used far greater amounts of local labor (Herald Square). Furthermore, while the IAED preliminary report mentions an average \$10 hourly wage increase for local carpenters compared to non-local carpenters, as an example of wage differentials depending on origin location, interviews with representatives from the building trades that have worked on out-of-town projects themselves have mentioned that contractors often use a “per diem” arrangement to cover the cost of housing and meals for out-of-town workers. Dave Marsh, the Principal Officer of the Tompkins County Building and Construction Trades Department, noted that such a “per diem” arrangement typically includes about \$150/day. Depending on the amount of workers used on a project, it is possible this cost offsets the \$10 wage increase noted in the report.

Regardless of the potential cost *savings* of hiring locally, without a policy in place to incentivize local labor utilization, developers are free to choose to either hire locally or not. Some will and some will not. The cases of City Center and Harold Square indicate that while each project is unique, savvy developers *are* capable of hiring a large percentage of local workers on large-scale projects if they so choose.

In a Local Labor Area where local workers are leaving the area to work, this unaccountability to the local workforce is both irresponsible and creates economic inefficiencies. From an environmental standpoint, hiring locally when it is available cuts down on emissions costs of transportation to and from out-of-town locations, in addition to economic ones. These findings indicate the necessity of a policy that intentionally incentivizes the use of local labor in scenarios where local workers are available to do the project. When a project receives a tax break, it ought to be accountable to the local public.

<sup>25</sup> Anderson, “Tompkins County IDA Local Labor Subcommittee: Local Labor Report,” 4-5.



Additionally, adopting a binding local labor policy can incentivize apprenticeships. This is because while 80.8% of apprentices are local workers (see Table below), nonlocal apprentices are paid significantly higher wages than those that are. If we implemented a local labor policy to ensure more local work is going to local workers, it would not be hard to hire apprentices.

	% of Total			% Local		
	Labor	Hours	Wages	Labor	Hours	Wages
Journeyman	16.9	18.3	19.1	50.5	62.1	58.9
Apprentice	10.4	13.2	9.2	80.8	90.1	87.1

	\$/hr	
	Journeyman	Local
	Nonlocal	<b>\$32.71</b>
Apprentice	Local	\$19.23
	Nonlocal	<b>\$25.72</b>

It is also important to note that in multiple scenarios, non-local contractors hired local workers. This strengthens the case for a policy which bases its ideal local labor threshold on all project employees, without regard for the base location of the general contractors, subcontractors or project managers. For example, Matco Electrical based out of Vestal hired almost 100% local union electricians on both the City Center and Harold Square projects. Fahs Construction Group, based primarily out of Binghamton, which is significantly closer to Tompkins, used approximately 60% local workers. There are more effective ways to incentivize the use of local contractors, that do not center them in a binding local labor policy, perhaps by rewarding the developer for their use, instead of requiring their use.

Ultimately, the CaSE board encourages setting the desired percentage for local labor at 100% of all project employees. Some argue that a binding local labor policy should be lower and thus “more realistic.” Nevertheless, such an argument ignores the main goal of implementing a policy at all—breeding significant change and advantage for our local workers, and growth of the local green construction market.

A 100% local labor policy will likely generate a lot of waivers, because in most cases it will be impossible to meet 100% local labor, but these waiver requests will generate a lot of valuable information. For example, this data will reveal specific local skills gaps, and can help inform workforce training programs such as those discussed in earlier sections. If a policy mirrored what is already happening locally, we would not be creating significant change, and there would be no real point of the waiver system at all.

### *Our Recommendation*

*We therefore instruct the County recommend the TCIDA implement a Local Labor Policy whereby 100% all project employees of the general contractor, subcontractor, or subcontractor to the subcontractor (collectively “the Workers”) could be required to reside in the Local Labor Area (Tompkins and contiguous counties). Recognizing that meeting this criteria is not always possible, waivers would be granted by the TCIDA in situations that apply to (i) warranty issues related to installation of specialized equipment or materials whereby the manufacturer requires installation by only approved installers; (ii) specialized construction for which qualified Local Labor Area Workers are not available; or (iii) documented lack of Workers meeting the Local Labor Area requirement.*

*Proof of a documented lack of local workers or unavailability of local workers capable of doing specialized construction work would be demonstrated by the Developer contacting the Tompkins County Building Trades Council, the TC Workforce Development Board and Tompkins Workforce and showing receipts of those communications to the TCIDA.*

*Should a violation of this policy be made aware to the TCIDA, the Applicant would be sent written notice of noncompliance, and upon its receipt by US Mail, the Applicant would have 10 days to either submit a request for a waiver or notify the TCIDA that it has rectified the issue through local hire. If these conditions are not met, the financial assistance would be suspended, and possibly terminated.*

### *Incentivizing Apprenticeship and Pre-Apprenticeship Programs*

Certified apprenticeship programs offer important opportunities to expand the local green workforce by providing critical on-the-job training. Apprenticeships equip local workers with the skills necessary to do high-quality work in family-sustaining, living-wage careers. They allow trainees to make an income while they learn, thereby lowering the barriers to participation and entry into the building trades and green jobs.

Simultaneously, apprenticeships offer cost savings to developers for completing menial tasks that can be easily done by workers-in-training. This is because apprentice wages are often lower than a first year journeyman by 50% or greater, depending on the specific apprenticeship program and the level of training the apprenticeship has.

In our County, there are already precedents for apprenticeship incentive programs on public works projects. In 2020, the City of Ithaca passed an apprentice incentive program for public works contracts that gives an incentive of \$5 per hour for each hour worked by an eligible apprentice on the awarded contract, subject to a minimum of 100-hours of apprentice work on the project per program-participating contractor or subcontractor. To further ensure that the program assists local people, it is required that the apprentices be either residents of the City of Ithaca, or be residents of Tompkins County and a woman

or a minority group member. Tompkins County has a similar apprenticeship policy whereby contractors must maintain or participate in a NYS DOL registered apprentice program on projects that require separate specifications through Wicks Law and cost over \$1 million dollars. Thus, recommending the IDA adopt a similar policy would align the agency with local government policies.

Incentivizing or requiring participation in NYS DOL registered apprenticeships on tax-abated projects aligns with the TCIDA's mission of "job creation" and the County's Energy Strategy goals. Additionally, finding ways for the IDA to help finance pre-apprenticeship programs, like those described in the Green Jobs Training section, is crucial to growing recruitment networks for green jobs. The CaSE Board suggests recommending a policy, similarly structured to the IDA Workforce Housing Policy, which requires developers to either support pre-apprenticeship or job pipeline programs, or hire a target of apprentices to complete the job.

### *Our Recommendation*

*With precedent policies in mind, we urge the County recommend IDA require developers receiving tax abatements to either i) employ at least 10% of the workforce through DOL registered apprenticeships OR; ii) pay \$2 into an existing or launching pre-apprenticeship program (to be defined by a list produced by the TC Workforce Development Board or another department) for every \$1,000 outlined as the total project cost on the initial project application*

- o In order to incentivize participation in the registered apprenticeships, the TCIDA could provide a small enhanced abatement of \$5 for each hour worked by an apprentice from Tompkins County*

The numbers chosen above were based on calculations of the average total project cost size of tax-abated projects (\$17,982,748). If a project with average total project costs pays into the Fund, it would be paying \$35,964 which is substantial enough to support a training program, but likely not sufficiently large to make a developer walk away from the project.

### *Project Labor Agreements*

Incentivizing the use of Project Labor Agreements on tax-abated projects is a strategic approach to making green construction jobs safe, reliable and desirable and for attaining our local workforce goals. To specify, a project labor agreement (PLA) is a project specific job-site "constitution," drafted before hiring and bidding has taken place between the owner and building trades.

PLAs promote efficiency, stability and cost savings, while simultaneously protecting workers from safety violations and diminished labor and living standards. This is because PLAs encourage cost savings through responsible business practices, instead of cutting corners. PLA contracts often have the opportunity to negotiate overtime pay, holidays, lunch breaks, and sometimes base wages, which increases the

desirability of these jobs. Indeed, ensuring green construction jobs are good jobs is a necessary component of any green workforce strategy, and we encourage the use of PLAs as a smart way to do so.

Developers and owners also benefit from the PLA's strategic approach to project completion, since commitment to uninterrupted production (no strikes or lockout) is a required PLA provision. Instead, dispute resolution procedures are set in advance. In a PLA, potential problems can be anticipated and avoided. Provisions can be tailored to the specific needs of the project. Since PLAs require hiring to be completed through union referral, contractors are also easily able to access skilled labor for the project's duration. That said, it is worth noting that union referral policies do not make PLAs "union-only" agreements, since they cannot discriminate against non-union contractors due to competitive bidding laws. Union halls also are prohibited from discriminating against non-union workers.

Importantly, the widespread use of project labor agreements has played a significant role in the creation of green jobs throughout the county. Indeed, in the green electrical trades in California, the use of PLAs has become a main source of the recent growth. In the report, "Environmental and Economic Benefits of Building Solar in California," the Labor Center at UC Berkeley noted that because most utility-scale solar projects in California used PLAs, many contractors agreed to pay into pre-apprentice and certified apprentice programs.<sup>26</sup> This led to the accumulation of \$17.5 million in new money for job training programs, and to the creation of 10,200 jobs in 5 years in the solar sector. The benefits of PLAs therefore expand to the community and larger workforce.

### PLA Project Size Thresholds

While all projects could benefit from the use of PLAs, these agreements are particularly valuable to projects that are complex and have serious time constraints. These time constraints are mitigated by thoughtful workflow strategizing and the no strike clauses. PLAs benefit larger-scale projects which require large workforces, since the PLA union referral system eases recruitment of workers and draws workers from large networks. They also benefit every project which seeks to promote workforce goals, which should include every tax abated project.

There is no definitive project-size threshold that can inform whether or not a PLA would generate cost savings. Feasibility studies are recommended to determine the appropriate project size. Tim Seeler, a Rochester-based engineer who conducts feasibility studies for PLAs, states that one way to use a feasibility study is to determine if a PLA for a project can show 2% or greater savings on the cost of labor. According to Seeler, such studies usually cost about \$15,000. While these studies are not necessarily prerequisites for implementing PLAs, it is commonplace for a developer to hire a qualified consultant, engineer, or construction manager to conduct them, and such feasibility studies are required on all public projects in New York State that use PLAs.

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<sup>26</sup> Peter Phillips, "Environmental and Economic Benefits of Building Solar in California: Quality Careers — Cleaner Lives," UC Berkeley Labor Center, 2014, <https://laborcenter.berkeley.edu/environmental-and-economic-benefits-of-building-solar-in-california-quality-careers-cleaner-lives/>.

PLAs often produce considerable gains on private projects once a project reaches a large enough size wherein union referral becomes necessary for securing enough workers to complete a project on time. Nevertheless, PLAs can be advantageous to projects for reasons other than workforce size, such as for projects with serious time constraints or complicated building procedures.

Importantly, Seeler argues, incentivizing the use of PLAs is not only a good strategy for cost saving measures, but its project-specific structure also provides another opportunity for attaining workforce goals and promoting equity that are important to the TCIDA Board. These goals may include mandated participation in pre-apprenticeship and registered apprenticeship programs, local hiring requirements, and mandates to hire workers specifically from disenfranchised and underrepresented populations. PLAs can also privilege minority-owned small business contractors, which contributes to meeting our equity goals. We urge these factors to be prioritized in a developer's determination of whether or not to use the PLA, and encourage the IDA to implement an enhanced abatement should a project choose to implement a PLA if it demonstrates community and workforce benefits.

In order to identify a reasonable project-size threshold for requiring projects to conduct PLA feasibility studies, it is important to examine the average and median total project cost for tax-abated projects, which are \$17,982,748 and \$7,200,000, respectively. These figures indicate that there are a small subset of projects that are much larger than the rest, skewing the mean upwards, including Asteri Ithaca LLC at \$108,793,929 and The Ithacan at \$64,300,000 and a few others towards \$50 million. Thus, it is reasonable to set this project-size threshold below the mean. The CaSE Board has identified \$10 million as a reasonable threshold for requirement to complete a feasibility study, set towards.<sup>27</sup>

Implementing a policy where tax-abated projects at or above a \$10 million threshold would be required to conduct feasibility studies for PLAs is a very reasonable and pro-development way to help make green jobs into family sustaining careers. PLAs could then be strongly encouraged on projects for which the feasibility studies show a 2% or greater cost savings, as well as projects that bring other considerable benefits to the County, such as ones which could substantially grow the local workforce through apprenticeship participation and local hiring as well as reach our equity and diversity targets.

### *Our Recommendation*

*We urge the County to recommend that TCIDA require developers with projects over \$10 million to conduct feasibility studies on the labor cost savings, and potential workforce benefits of the use of Project Labor Agreements. Should a project's PLA feasibility study demonstrate labor cost savings, apprenticeship participation, local or priority population hire benefits, the TCIDA would strongly urge the developer to use the PLA. Should the developer use a PLA where cost savings are not shown, the TCIDA would give the developer a small enhanced tax abatement to support the use of the PLA.*

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<sup>27</sup> "TCIDA Projects," Tompkins County Industrial Development Agency, accessed November 9, 2020, <http://www.tompkinsida.org/projects/>.

## Further Data Collection

The CaSE Board sees a critical need for setting a target number for placing unemployed County residents into green jobs. According to the Tompkins Workforce Development Board, they have yet to calculate the actual number of County residents out of work, which is necessary data for developing and executing a strategy to restore the low unemployment levels of 2019. While the CaSE Board is not going to be taking on further data collection, we urge the County to understand the current unemployment number, and to include the number of people in surrounding counties who previously commuted into the Ithaca Metropolitan Statistical Area to work. Based on total unemployment, we may then suggest a percentage to set as a target for green jobs the County seeks to create and fill. This goal can then guide the TC Workforce Development Board's Workforce Strategy and the County's Energy Strategy through a target-based approach.

Additionally, the CaSE board would like to see expanded and current lists of local employers in clean energy, green workforce stakeholders, and available funding for green workforce development. While preliminary lists are shown below, they require more in depth research to complete. When complete, the CaSE board recommends the County publish the information on the Tompkins County and Tompkins Workforce New York Websites.

## Conclusion

This report intentionally dives into detail on the first steps necessary to kickstarting a strong green workforce strategy. It by no means explores every necessary action that the County can take to advance the green workforce, and we suggest the County revisit its green jobs workforce strategy upon completion of the recommended actions. Future longer term initiatives should focus on the indirect creation of jobs through growth of green industry, ways to improve the local quality of living to drive the local economy, and certain industries we have not yet discussed in our report: transportation, manufacturing, and clean energy production. Some of these longer term initiatives are explained in the Appendix Section D of the report.

## Appendix

### A. Local employers in clean energy (not a complete list)

Name	Description of Organization	Current/past Workforce Activities
ETM Solarworks (Broome County)	Solar and energy storage contractor	Tier Energy Network Workforce Development Committe
Finger lakes Renewables Solar Energy (solo practitioner)	Solar and energy storage contractor	
Halco Energy (serves 12 counties)	HVAC, solar, weatherization contractor	Has <a href="#">partnered with Monroe Community College</a> to offer certificate programs and hire grads
HVAC contractors	Large and small mechanical contractors in the County <a href="#">City of Ithaca list of HVAC contractors with contact info</a> - over 50 firms and practitioners doing business locally	
Performance Systems Development	Energy efficiency program design, management & evaluation for utilities and government agencies	
Snug Planet	Weatherization, HVAC contractor	Collaborating with HeatSmart Tompkins on heat pump training
Sungineer Solar (solo practitioner)	Solar and energy storage contractor	
Taitem Engineering	Energy engineering and analysis; design engineering; policy and program development and support	Hires interns
Invenergy, Ithaca Office	Global power generation company developing wind farms in the Southern Tier	Nationally has had a focus on training veterans
Cornell University Facilities and Campus Services	Employs building automation technicians, energy managers, mechanical and electrical technicians	
Ithaca College Office of Facilities	Staff maintain electrical, mechanical, HVAC/R systems for buildings and events and provide technical support to institutional goal of carbon neutrality by 2050	Dept goals include to enhance training opportunities for Facilities employees

## B. Workforce Stakeholders in Tompkins County

Stakeholders which are or could be engaged in clean energy workforce training and development in Tompkins County and the Southern Tier region include educational institutions, government agencies, non-profit organizations and commercial and trade associations. The following provides an overview, and an attached spreadsheet lists contact information as of August 2020.

Name	Description of Organization	Workforce Role (current or prospective)	Current Activities to clean energy workforce
Tompkins Cortland Community College	Community college offering credit and noncredit education	Recruitment, training, placement, support	
Tompkins Workforce NY Career Center	Government (County and State) - Public employment services	employment services	
Tompkins County Area Development	Independent Agency - Accredited Economic Development Organization	Economic development, incentives through the IDA	
Youth Employment Service	Government - City of Ithaca agency serving youth aged 14-21 seeking jobs in Tompkins Co.	Training; placement; support	
Tompkins Workforce Development Board	Government - Tompkins County department	develop and coordinate workforce strategies and policies	
Tompkins Community Action	Non-profit weatherization agency serving LMI households		
Cornell Cooperative Extension of Tompkins County	Energy Extension Educators	Training	Energy Warriors Green Career Pathways program for incarcerated youth
Sunrise Movement Ithaca	Youth-led political advocacy	Recruitment and support	co-facilitating community conversations around the Ithaca Green New Deal framework
Challenge Workforce Solutions	Nonprofit creating pathways to employment for people with disabilities or barriers		



Name	Description of Organization	Workforce Role (current or prospective)	Current Activities to clean energy workforce
Tompkins Community Action	Nonprofit delivering weatherization for LMI households	On the Job training	
Get Your Greenback Tompkins	Nonprofit leading campaigns for sustainability and local empowerment	Training of volunteer Energy Navigators	Researching best practices for job training programs for people with employment barriers (e.g. formerly incarcerated) in the fields of energy efficiency and renewable energy
Sustainable Tompkins	Nonprofit		
NYS Weatherization Directors Association	Nonprofit with comprehensive Training Center in Syracuse	advanced training for building science and sustainable construction practices	
HeatSmart Tompkins/ Solar Tompkins	Nonprofit, market	Training	NYSERDA-funded HVAC training program
Building Bridges/TFC Associates/Dorothy Cotton Institute	Nonprofit	Recruitment and support	co-facilitating community conversations around the Ithaca Green New Deal framework
Tompkins Seneca Tioga BOCES	School - Serves 9 school districts with shared services, both educational & operational	Recruitment, training, placement, support	PTECH Academy (Gr 9-AAS degree) for adv mfg & comp sci
Ithaca City School District and all other Districts in the County	Schools	Recruitment, training	
Building Performance Contractors Association of NYS	Trade Association; Executive Director is Tompkins Co. resident		
International Brotherhood of Electrical Workers and other trade unions	Trade union	Training, placement, support	Apprenticeship programs
Learn@EcoVillage Ithaca	Education non-profit based in a residential community built around renewable energy, sustainable agriculture and neighborhood cooperatives	Training	Resilient Earth Corps immersion and internship programs. Interest in hosting green building training
Ultimate Reentry Opportunity	Non-profit to support citizens returning from incarceration	Training	

Name	Description of Organization	Workforce Role (current or prospective)	Current Activities to clean energy workforce
Finger Lakes Reuse Center	Non-profit	Training	ReSET (Skills and Employment Training) Program for people with barriers to employment
Bike Walk Tompkins	Non-profit organization promotes active transportation- biking and walking- in Tompkins County		Bicycling for Everyone action plan
TCAT	Private Nonprofit organization- Ithaca bus transit system	Green Employer	
Tompkins County Climate Protection Initiative	Environmental Consultant - a clean energy coalition of local community leaders who are committed to the reduction of greenhouse gas emissions, greater energy efficiency, and the adoption of renewable energy		IC Sustainability Launching Campus to Community Program, HeatSmart Tompkins Campaign,

### *C. A Vision for Long Term Strategy*

**Focus on R&D, prototyping, high tech, and small manufacturing.** Economic development agencies throughout the US routinely engage in ‘smokestack chasing’, doling out tax breaks and other corporate welfare to attract large-scale industry. For Tompkins County, this couldn’t be a worse strategy. Since its founding, Ithaca has been ‘transportationally challenged’, which is why it never developed into a manufacturing center like Syracuse or Rochester. Currently we have only one southbound rail link, and we have no convenient connection to the Interstate highway system. Getting large quantities of raw materials in and goods out will be difficult for our ‘centrally isolated’ community. Building new rail infrastructure to serve a large manufacturing base is an important long term goal, but its absence should not impede the development of small-scaled manufacturing in the interim. For now, TC should focus on development of activities that can be accommodated with our current transportation infrastructure, including R&D and small-scaled manufacturing. The presence of Cornell has contributed to local R&D and small startups, and the County should continue to support this activity. The manufacture of small-quantity high-value goods, especially green technologies, that can be easily shipped by truck or air is also a good fit for TC. If a manufacturing facility is pollution free it should be located in the City of Ithaca or in other TC population nodes. Lastly, rather than ‘importing’ companies from elsewhere, we should be ‘growing’ clean energy companies locally, creating a business climate that keeps startups here as they grow.

**Housing affordable to job holders.** Few will take jobs here if other areas have comparable job opportunities and are less expensive to live in. An expansion of job opportunities without an expansion in housing opportunities could actually negate the ‘green-ness’ of green jobs because of the energy used and emissions generated from commuting, assuming the jobs are filled in the first place.

Many green jobs involve decentralized ‘on-site’ work, meaning that workers will be less able to perform their jobs if they rely solely on mass transit to get to work. For example, workers living outside Tompkins County but working in a solar panel manufacturing plant could conceivably take the bus to work if the factory is on a bus route, however if their homes are not on a bus route, transit is not an option. If they need to go to a different site each day, even if they live on a transit route, they won’t take transit because their destination changes daily. The best strategy to deal with this transportation issue is to get these green job holders to live inside the County, to reduce the commutes of those engaged in on-site work, and to increase the probability that transit can connect those who work in a single location to their homes.

**Investing in Transportation.** Another avenue for job creation that goes hand in hand with affordable housing is the investment in transit projects. According to Cornell Worker’s Center’s Lara Skinner, investing one dollar in these projects yields a four dollar return, enabling residents transportation options at lower carbon costs and creating an influx of jobs to both build and manage transportation options. With TCAT committed to transitioning its fleet to 100% electric, now is the time to lobby the state for further investment in rapid bus transit and the revitalization of our forgotten rail lines. Potential financing mechanisms could include a carbon tax, a wealth tax on our NY state’s billionaires, a financial transaction tax to reign in speculators that destabilize our financial markets. Making the case for TC’s persistent and

urgent transportation needs, given our unique topography and our existing investment in TCAT, could encourage the state to invest in more than just the MTA when it does finally create a transit investment plan associated with the CLCPA.

***Worker Owned Cooperatives.*** Finding ways to encourage worker ownership in the clean energy sector could help empower workers, which would in turn draw new workers to the green industries. This could also help bridge the gaps in unionization in the clean energy fields, by providing a pathway for worker empowerment that makes sense in small-scale retrofit work. There are many ways municipalities have incentivized worker ownership, including through preferential procurement, business tax and land use incentives, changing the business permit application to allow registration as a worker cooperative, or through the creation of a publicly funded cooperative loan fund or by distributing funding to technical assistance programs that create new worker cooperatives. There is likely opportunities for IAED to support an initiative like this down the line.

***Power Supply.*** Businesses and individuals would benefit from reliable, renewable, and lower cost electricity. Manufacturers who might rely on gas for high-heat processes will need access to more electricity as they transition away from gas. In addition, being able to isolate the County from large scale power outages with a network of microgrids would benefit everyone. Building new power production facilities is a large source of direct green jobs, so a priority should be placed on creating local generation capacity, rather than importing electricity, as demand inevitably increases due to the electrification of transportation and the transition away from gas heating. Reducing costs through Community Choice Aggregation or public ownership of our utilities should be pursued.

***County health care plan.*** Health care is a huge cost for businesses and workers alike, depending on the structure of a health plan. Workers often resist re-training, changing jobs, or starting their own businesses because they fear losing the health care they have. Businesses may have employees work more overtime instead of hiring an additional worker because of the added health care cost of a new employee. Short of a national or NYS universal health care program, TC might explore a large health care plan that covers ALL residents, businesses, and workers in TC. Imagine how low the premiums would be for a group plan with over 100,000 members. If only one option was offered (i.e. 100% coverage for everything, period) the administrative burden for businesses, institutions, government, and doctors would be significantly reduced. The presence of Cornell and IC is an advantage because such a large block of the County's residents and workers are already covered by their current programs. Merging and expanding their health care into a larger system would benefit both institutions and the community at large. This suggestion is not for a County funded system, but for a County led effort to create a large group plan with a private insurance company, likely re-negotiated every few years.

## *D. List of Interviewees*

1. Alojz Airewele  
Cornell Cooperative Extension
2. Karim Beers  
Cornell Cooperative Extension
3. Natalie Branosky  
Tompkins Workforce
4. Jon Harod  
Snug Planet, Owner and Founder
5. Brian Eden  
Heatsmart Tompkins, Board Member
6. Brian LaMorte  
CEO, LaMorte Electric
7. Todd Bruer  
Business Manager IBEW Local 241
8. Mike Dundon  
Laborers Local 785
9. Kirby Edmonds  
Dorothy Cotton Institute, Training for Change
10. Adele Ferranti  
NYSERDA Workforce Development Program Manager
11. Carl Feuer  
Tompkins County Workers Center
12. John Guttridge  
Developer, Tompkins County IDA
13. Steve Harvey  
Bricklayers Local 3 NY
14. Alex Hyland  
IBEW Local 241
15. Anna Kelles  
Member Elect, New York State Assembly
16. Fred Kotler  
Government Relations Advisor ILR Cornell
17. Anne Koreman  
Tompkins County Legislator, Tompkins County IDA
18. Dave Marsh  
Laborers Union Local 785
19. Travis Nevis  
Painters and Allied trades DC 4
20. Barbara Reer  
SUNY Ulster Workforce, Career, Apprenticeship Initiatives
21. Anne Rhodes  
Cornell Cooperative Extension of Tompkins County
22. Scott Stringer  
Bricklayers Local 3 NY
23. Arthur Wheaton  
Workers Institute ILR Cornell
24. Marcus Williamee  
Plumbers and Steamfitters Local 267

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