

Descriptions of MSAs and their Workforce Ecosystem Profiles

Creating actionable solutions to diversifying the clean energy workforce requires understanding workforce development within metropolitan areas. The United States Office of Management and Budget defines metropolitan statistical areas as standardized county or equivalent-based areas having at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core, as measured by commuting times.⁴¹ Most of the activity within labor markets occurs within metropolitan areas. This is where workers receive training and get connected to opportunities. Workers often commute to jobs within the boundaries of metropolitan areas, often crossing city, state, and county boundaries.

American Job Centers, funded by the Workforce Innovation and Opportunity Action (WIOA) of 2014 are often organized to provide a variety of services to residents of a metropolitan region. This is typically done in conjunction with government agencies, community-based organizations and educational institutions and employers. Employment opportunities are more likely to be found in metropolitan areas. Each local workforce system is different, so an analysis of career pathways within metropolitan areas provides a more textured picture of the character of the workforce system and a roadmap of the potential place-based strategies to enhance pathways into clean energy.

⁴¹ Bureau of Economic Analysis, *How is a metropolitan area defined?* <https://www.bea.gov/help/faq/459> January 10, 2008. Page last modified April 25, 2010.

Descriptions of MSAs and their Workforce Ecosystem Profiles *continued*

Finally, the problem of increasing diversity can be addressed more directly. A geospatial analysis of the location of disadvantaged communities in relation to training and employment opportunities in clean energy provides additional insights about access to clean energy pathways.

Methodology

Six MSAs were prioritized for this study. Priority locations were identified in consultation with the Barr Foundation Climate Team. A geospatial analysis of MSAs was used to identify the most disadvantaged locations in terms of social and economic vulnerability and exposure to environmental risk factors. The Geospatial analysis calculated an Environmental Justice Index (EJ Index) across the six New England states. This analysis applied the US Environmental Public Agency (EPA) EJSCREEN for calculating the EJ Index by combining demographic and environmental indicators, to represent historically underrepresented communities that are vulnerable to an environmental pollutant. In this case, the analysis used particulate matter as it is closely related to fossil fuel combustion for electricity. The following are demographic indicators used to define historically underrepresented communities:

- Minority Population
- Low Income
- Less than a High School Education
- Non-English-Speaking Households
- Unemployed Population

The team then used Barr grantees to narrow down to the final set of MSAs for case studies. Emerald Cities Collaborative conducted 37 interviews with representatives from different organizations within each priority MSA.

Interviews included stakeholders across the six regions in the following categories:

- Industry Representatives and Businesses
- Advocacy and EJ Organizations
- Community-Based Organizations
- Community Colleges and Technical Colleges
- Pre-Apprenticeship and Apprenticeship Programs
- State Building and Construction Trades Councils
- State Organizations and Leaders

Descriptions of MSAs and their Workforce Ecosystem Profiles *continued*

Interviews focused on the levels of awareness about clean energy career pathways, the activities that prepared individuals for career pathways, and the types of formal or informal partnerships each organization had with others in the workforce ecosystem. The way these partnerships were described led to inferences about the degree to which an organization was connected to others. Connectivity was an important indicator of the effectiveness of the workforce ecosystem. Indicators of connectivity included:

- The number of public-facing partnerships the organization had in place. These were determined through the interviews and by examining the websites of these organizations.
- Descriptions of memoranda of understanding, articulation agreements or other formal statements of agreements with other organizations situated in the workforce ecosystem.
- Descriptions of referral networks where the organization either gained participants from others or where the organization referred participants out.

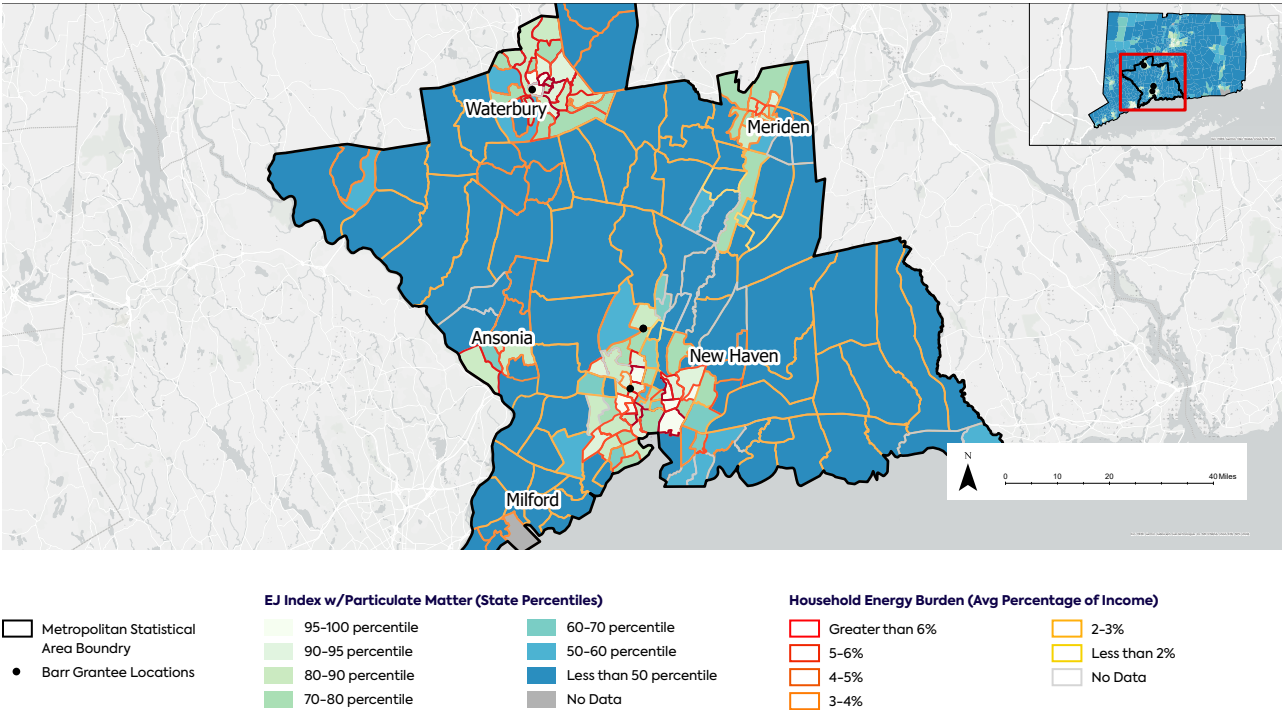


Emerald Cities Collaborative. Photo credit: Marilyn Humphries

New Haven–Milford MSA

Workforce Ecosystem

New Haven–Milford MSA Environmental Justice Index and Energy Burden By Census Tracts 2020



NEW HAVEN–MILFORD MSA GEOSPATIAL PROFILE

Population (in 2020): **857,733**

Unemployment Rate: **5.6%**

Average Particulate Matter
2.5 percentile in State: **60**

Average Traffic Proximity Percentile
in State: **77**

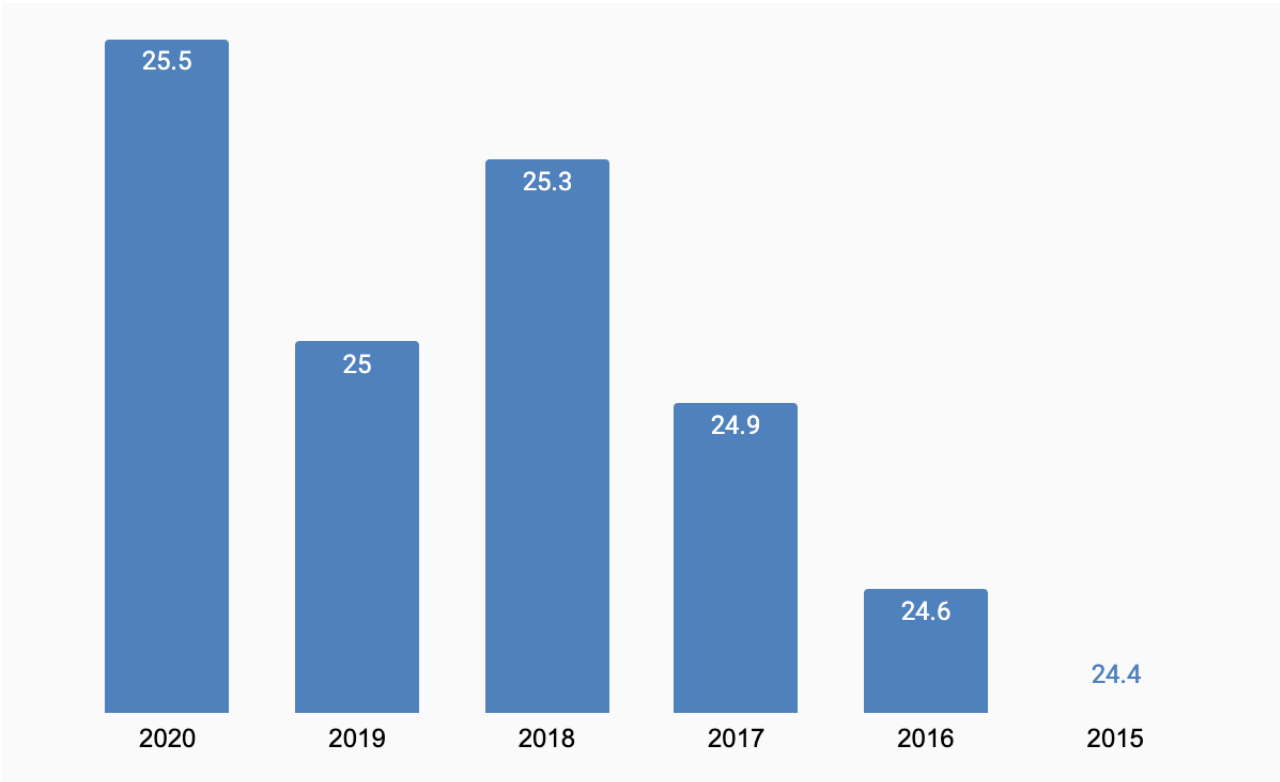
Average Energy Costs
(% of household income): **4%**

New Haven–Milford, CT metropolitan area consists of the entire New Haven County.⁴⁵ In 2020, the population was 857,513, with a slight decline from 2019 at 0.21 percent.

When compared to the state, the New Haven–Milford metropolitan area ranked in the 60th percentile for particulate matter 2.5 pollution levels. Communities proximate to traffic ranked in the top 77th percentile, the highest among the six metropolitan areas observed in this report. On average, residents traveled 25 minutes to work, with 34 percent of households owning three or more vehicles.

⁴⁵ <https://www.bls.gov/cew/classifications/areas/county-msa-csa-crosswalk.htm>

FIGURE 1. Mean Travel Time to Work
New Haven–Milford MSA 2016–2020

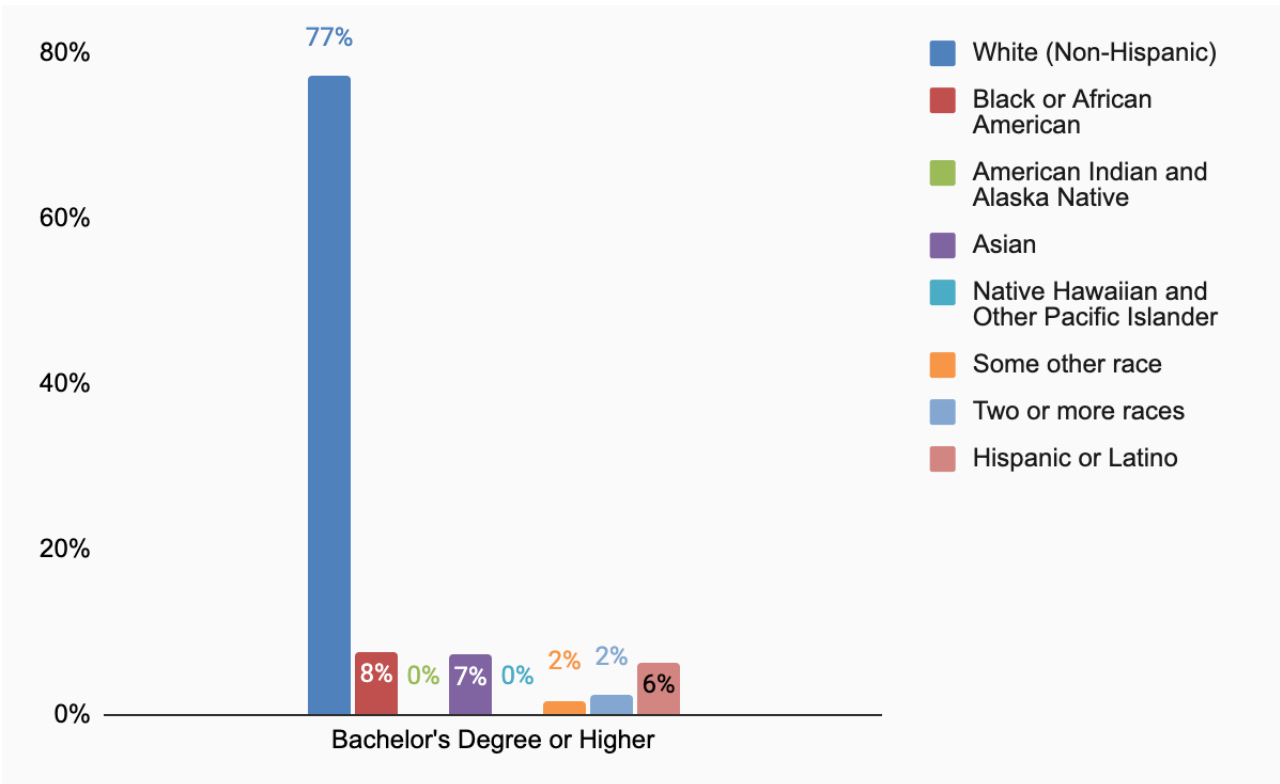


Source: 2016–2020 ACS 5-year estimates

Disproportionate impacts to health and pollutant exposure is largely associated with race/ethnicity and income. Historically under-represented communities represent 14 percent of the New Haven metro population, higher than the other six metropolitan areas observed in this report. Overall, 36 percent of the residents identify as non-White, 10 percent have less than a high school education, 5.6 percent are unemployed, 14 percent have incomes at or below 65 percent below the state median income, and 5 percent live in limited English speaking households.

On average, there were 7.9 times more White (Non-Hispanic) residents than any other race or ethnicity in 2020. Of the total population, 62 percent of the residents identify as White, 18.6 percent Hispanic or Latino, 12.5 percent Black or African American and 4 percent Asian America. The share of Hispanic or Latino and Black or African American residents is higher compared to the state population. In Connecticut, 16.4 percent of residents identify as Hispanic or Latino, while 9.9 percent identify as Black or African American.

FIGURE 2. Race/Ethnicity by Educational Attainment
New Haven–Milford MSA 2020

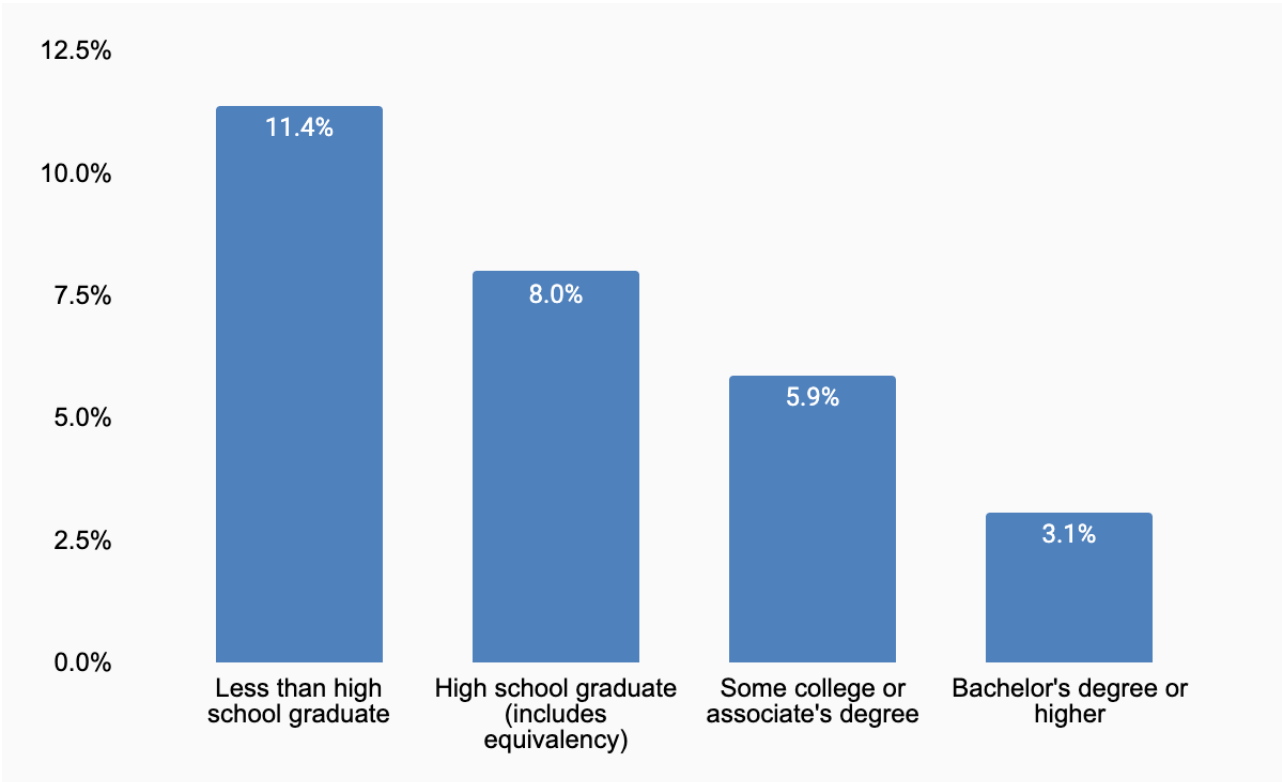


Source: 2016–2020 ACS 5-year estimates

Knowing the educational attainment of the population can provide valuable insight about a specific area. Areas with high rates of low educational attainment usually face challenges such as higher rates of unemployment. Overall, 10 percent of residents earned less than a high school diploma while 30 percent have high school diplomas with no other formal education. Figure shows 2 race & ethnicity by distribution for the New Haven metro area in 2020.

Of those who attained a bachelor's or higher, only 6 percent identify as Hispanic Latino and 8 percent Black or African American, despite representing 30 percent of the overall population, collectively.

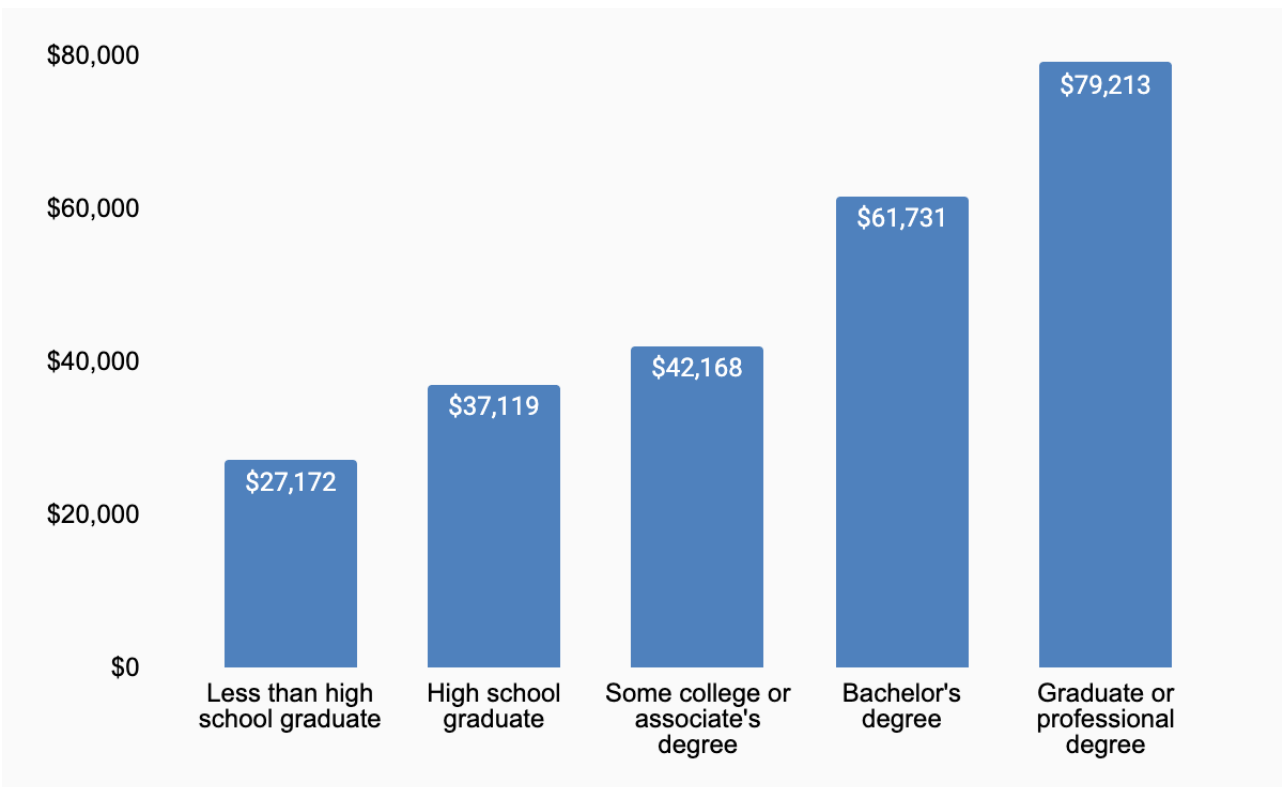
FIGURE 3. Unemployment Rate by Educational Attainment
New Haven–Milford MSA 2020



Source: 2020 ACS 5-year estimates

The unemployment rate in 2020 for individuals 25 to 64 years and older was 5.6 percent. However, for those who attained less than a high school diploma or earned a high school diploma, the rate is disproportionately higher at 11.4 percent and 8.0 percent, respectively. Unemployment rates among residents with a bachelor's or higher is significantly lower than the New Haven metro unemployed population at 3.1 percent (Figure 3).

FIGURE 4. Median Earnings and Educational Attainment
New Haven–Milford MSA 2020



Source: 2020 ACS 5-year estimates

Higher earnings also correlates with educational attainment. Workers with a bachelor’s earned nearly \$35,000 more in annual wages than those with less than a high school education (Figure 4).

English–capability is an important aspect of employment participation. Overall, 24 percent of the New Haven metropolitan population speak a language other than English at home with Spanish being the most common language at 14 percent, followed by Indo–European speaking households at 6 percent and Asian and Pacific Island households at 1 percent. Collectively, 5 percent of residents speak limited English at home.

New Haven–Milford MSA Clean Energy Ecosystem

The collective impact literature provides a good grounding in terms of what it takes for a local workforce system to function well. We adapted this approach to produce a connectivity rubric (on the next page). This helped in developing questions that discerned the nature of connectivity with each MSA.

CONNECTIVITY ASSESSMENT RUBRIC

	Description	Key Indicators
Ecosystem Manager AKA “Backbone Team”	Ecosystems are anchored by an action oriented organization with the ability to convene frontline organizations and connect them with private sector and public sector opportunities, in addition to demonstrating the capacity to facilitate pass through funding opportunities to smaller organizations and funding to support partnership participation and investment in equity initiatives	<ul style="list-style-type: none"> Have experience managing diverse stakeholder interests and facilitating and convening the partnership Are trusted in the community and perceived as an ally to people from frontline and impacted communities Intentionally and regularly convene community based groups and private and public sector groups within the workforce ecosystem with explicit inclusion of marginalized identities. Collect or support the collection of disaggregated data across the system Have access to funding or capacity to apply for grants to support the partnership
Public Facing Partnerships	Ecosystems have established relationships with regional organizations such as CBOs, training organizations, pre-apprenticeships, apprenticeships, community colleges, universities, building trades, and employers to ensure equitable access to in demand clean energy careers	<ul style="list-style-type: none"> Have MOUs and/or articulation agreements between partners The partners are representative of the different organizations along a career pathway (CBOs, pre-apprenticeships, high schools, community colleges, apprenticeships, employers) The partnership has a vision, mission and goals The partnership prioritizes equity and pathways to quality careers (high road) The partnership works to calibrate training to labor market demand The partnership is demand-side driven
Centering Equity	<p>Established commitment to diversity, equity and inclusion among supply-side and demand-side actors by addressing barriers to employment opportunities in clean energy, as well as building equity in leadership and accountability.</p> <p>The work should include equity strategies for collective impact such as, strategies grounded in data and context, solutions focused on systems change, in addition to programs and services that listen to and act with the community.</p> <p>This might include active outreach to underrepresented communities, providing wrap-around services to enable program participation such as (subsidized child care, transportation, application fees, etc.)</p>	<ul style="list-style-type: none"> Ecosystem manager leadership and the collaborative is led by members of the community and centers the lived experience of community members. Operate using a systems based approach Use of disaggregated racial data to understand where the ecosystem is and where it needs to go Sets goals for quality equity initiatives Investment in capacity of frontline organizations/CBOs Training organizations are based in underrepresented communities Public procurement policies are in place to promote utilization of MDWBEs Public policies set targets for apprenticeship utilization Public policies in place for targeted or local hire Providing training opportunities that prevent occupation segregation Inclusive hiring policies Organizations provide participants with comprehensive exposure to a career pathway
Mutual Reinforcing Actions	WEs enable mutual reinforcing actions (referrals, stakeholder engagement, advocacy, work-based learning), among partner organizations through shared values, defined common standards that create industry recognized credentials	<ul style="list-style-type: none"> Develop shared vision, mission and goals Work on local, state and/or federal policies that support equity goals and job quality as well as clean energy accessibility for impacted communities Evidence of alignment of credentials certifications, curriculum, and credits to create industry standards Provide work based learning and on-the-job training opportunities as well as career exposure through field trips, shadowing and presentations Review critical documents such as: Climate Actions Plans, Building Performance Standards, etc. to include strategies and language that support equity and economic inclusion Develop and implement community workforce agreements and community benefit agreements Engage impacted communities in policy and program design Work with employers to develop retention strategies for women and BIPOC employees Develop and adopt labor standards to ensure job quality and equitable access
Share Information and Best Practices	WEs share information and best practices that help ecosystem partners understand and navigate the landscape	<ul style="list-style-type: none"> Learn from national best practices that include equity and economic inclusion principles in their climate action and workforce development policies and programs development Map the workforce ecosystem and understand assets, gaps, and opportunities Transparent and share critical documents to help align the ecosystem

New Haven–Milford MSA

Workforce Ecosystem *continued*

Based on interviews and desk audits, the team drew these conclusions about the nature of connectivity within each MSA. Since this was based on single interviews, and the rubric was not shared with the interviewees, the conclusions are more impressionistic. An improved methodology would have included self-assessments of connectivity among staff from different workforce development organizations.

CONTEXT OF LOCAL POLICY

In 2018, the City of New Haven launched the Climate & Sustainability Framework with set strategies to address climate and sustainability challenges, particularly through electric power and buildings. The city aims to increase the adoption of renewable energy by utilizing state programs such as Solarize CT which subsidize renewable energy installation in addition to supporting customer reduced energy usage, as many of these programs are underutilized. Other state programs such as Energize CT provide residents with home energy consultants and financial assistance for energy efficiency upgrades will be promoted through outreach campaigns. The city built upon these efforts by adopting the Climate Emergency Resolution which calls for the end of greenhouse gas emissions by 2030 and the commitment to work with local organizations and communities in the development of equitable clean jobs.

STRENGTHS

Energy programs at the state level have invigorated the labor demand for energy efficiency retrofits in the commercial and residential market. New Haven has more than 735 kilowatt-hour of installed solar PV on residential buildings through the success of state energy programs.⁴⁶ New jobs and training programs are being developed to support the demand. Firms are partnering with advocacy organizations and community workforce programs to recruit and support individuals from underrepresented communities to participate in internship programs.

New Haven has several workforce training assets to support pathways into clean energy careers. There are four Job Corps pre-apprenticeship programs throughout the State of Connecticut that serve New Haven and Hartford. The programs offer free supportive services and training to youth ages 16–24 years old. There is also the Industrial Management & Training Institute, which is a tuition based, nonunion affiliated, coeducational technical school that offers programs for electricians, plumbers, solar installers and HVAC mechanics. The Institute is accredited by the National Center for Construction Education & Research (NCCER).

⁴⁶ https://yale.learningu.org/download/5c2e35d5-5e36-407c-9d07-7f79dcc49e7a/S3227_Splash%20Handout.pdf

New Haven–Milford MSA

Workforce Ecosystem *continued*

CHALLENGES

There is a shortage of labor for many of the entry level occupations needed to meet the labor market demand for energy retrofits, such as solar installers, electricians, building analysts and HVAC installers. The shortage is partly attributed to low wages. Utility incentive structure makes it difficult to scale demand in the residential labor market as the downward pressure on growing the labor supply persists. Funding allocated through state weatherization programs is not enough to sustain firms and meet the market demand. Firms are left reducing staff to stretch funding for additional months, unlike commercial market programs which have more financing options.

OPPORTUNITIES

Similar to the Hartford metropolitan region, there is a high demand for MC3 pre-apprenticeship programs as well as wrap-around service providers to diversify and increase the labor supply in the energy efficiency field. Workforce training programs could partner with public schools to expand career exposure to apprenticeships and clean energy careers at the middle and high school level. Access to a high-road and equitable career pathway starts with strong partnerships with high schools and community-based organizations who are working with priority populations that can provide career exposure and wrap-around support services.

There is also an opportunity for Gateway Community College to partner the Building and Construction Trades and clean energy employers to develop certificates and training programs relevant to meeting the growing

demand in these industries. Gateway Community College is Connecticut's largest community college, but currently does not have any identifiable, construction and clean energy programs, based on information gathered from their website.

Additionally, the New Haven American Job Center offers financial assistance to Connecticut manufacturers for growing innovative and technology-based manufacturing business in Connecticut and training incumbent workers in the appropriate skills to meet current and emerging market needs. It is unclear if these opportunities are connected to clean energy manufacturers, but this could present an important economic opportunity.

CONSIDERATIONS

A limited number and types of interviews makes it difficult to draw conclusions apart from the state-level work described above. The local workforce development agency appears to have connections to the Connecticut State Building and Construction Trades. However, it is hard to make determinations about what is happening in New Haven. On one hand, the region has Job Corps as a gateway for new entrants into energy efficiency and clean energy pathways. On the other hand, the training infrastructure beyond basic workforce preparation is not clear.

Also, it is unclear how the [Climate Action Strategy at Yale University](#)—an important anchor institution in New Haven—is going to spark labor market demand. The institution plans to reduce carbon emissions from its power plants by 65 percent by 2025, increase capital spending from \$15 million to \$25 million per year

New Haven–Milford MSA

Workforce Ecosystem *continued*

and will focus on “the judicious use of carbon offsets to supplement the reduction of actual emissions by 2050.”⁴⁷ The University notes the scale of having to upgrade 400 buildings and “provides an exciting opportunity to support innovations in workforce development...as success requires a talented workforce and a supportive community.”⁴⁸ While the institution makes a nod to workforce development, it is hard to determine how the institution will invest in these innovative strategies over the next 27 years. While this represents an important opportunity to spark economic opportunity in the region, it is hard to discern how the ecosystem is organized to realize the level of innovation called for in the Strategy.

The following questions remain unanswered:

- How will new entrants move from initial training opportunities to additional skills training leading to employment?
- How successful is the American Job Center incentive program aimed at getting manufacturers to hire and train incumbent workers?
- How are investments in anchor institutions such as Yale University going to be leveraged to benefit communities within the region?

Assessment: Based on these findings, the team assessed the New Haven–Milford based on the rubric presented. Here is a summary of the findings compared to the other MSAs in New England. To review findings from other MSAs, please see the full report or another MSA profile.

Connectivity Characteristics at the Regional Level: A Snapshot

	Ecosystem Manager	Public Facing Partnerships	Centering Equity	Mutual Reinforcing Action	Sharing Information & Best Practice
Metropolitan Region					
Hartford MSA (CT)	X*	X*	X*	?	?
New Haven MSA (CT)	X*	X*	X*	?	?
Portland MSA (ME)	X*	X	X	?	?
Boston MSA (MA)	X	X	X	X	?
Springfield MSA (MA)	?	?	?	?	?
Providence MSA (RI)	?	X	X	X	?

X = Present X* = Significant presence ? = Could not be confirmed

⁴⁷ Yale University Climate Strategy, 2023 <https://sustainability.yale.edu/priorities-progress/climate-action/climate-action-strategy>

⁴⁸ Ibid.

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