

# 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.<sup>41</sup> 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.

<sup>41</sup> 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:

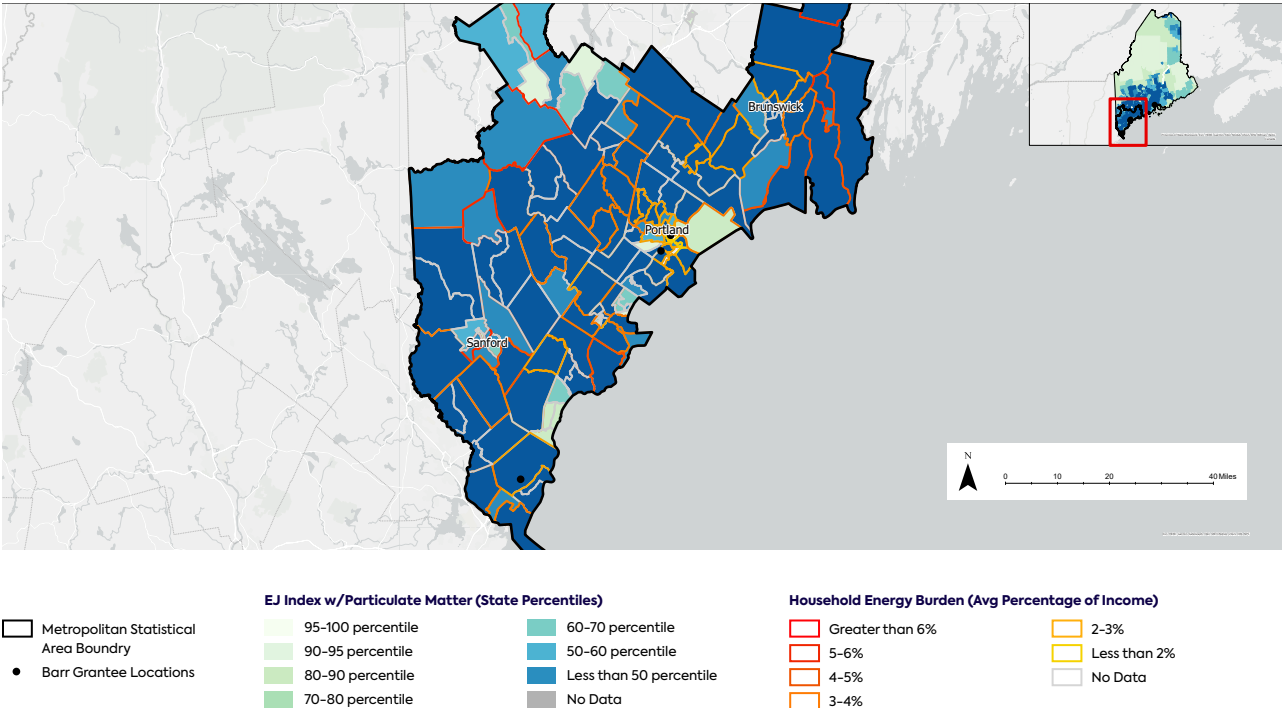
- The number of public-facing partnerships the organization had in place. These were determined through the interviews and by examining the websites of these organizations.
- Descriptions of memoranda of understanding, articulation agreements or other formal statements of agreements with other organizations 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*

# Portland-South Portland MSA Workforce Ecosystem

## Portland-South Portland MSA Environmental Justice Index and Energy Burden By Census Tracts 2020



### PORTLAND-SOUTH PORTLAND MSA GEOSPATIAL PROFILE

Population (in 2020): **536,314**

Unemployment Rate: **2.5%**

Average Particulate Matter  
2.5 percentile in State: **70**

Average Traffic Proximity Percentile  
in State: **67**

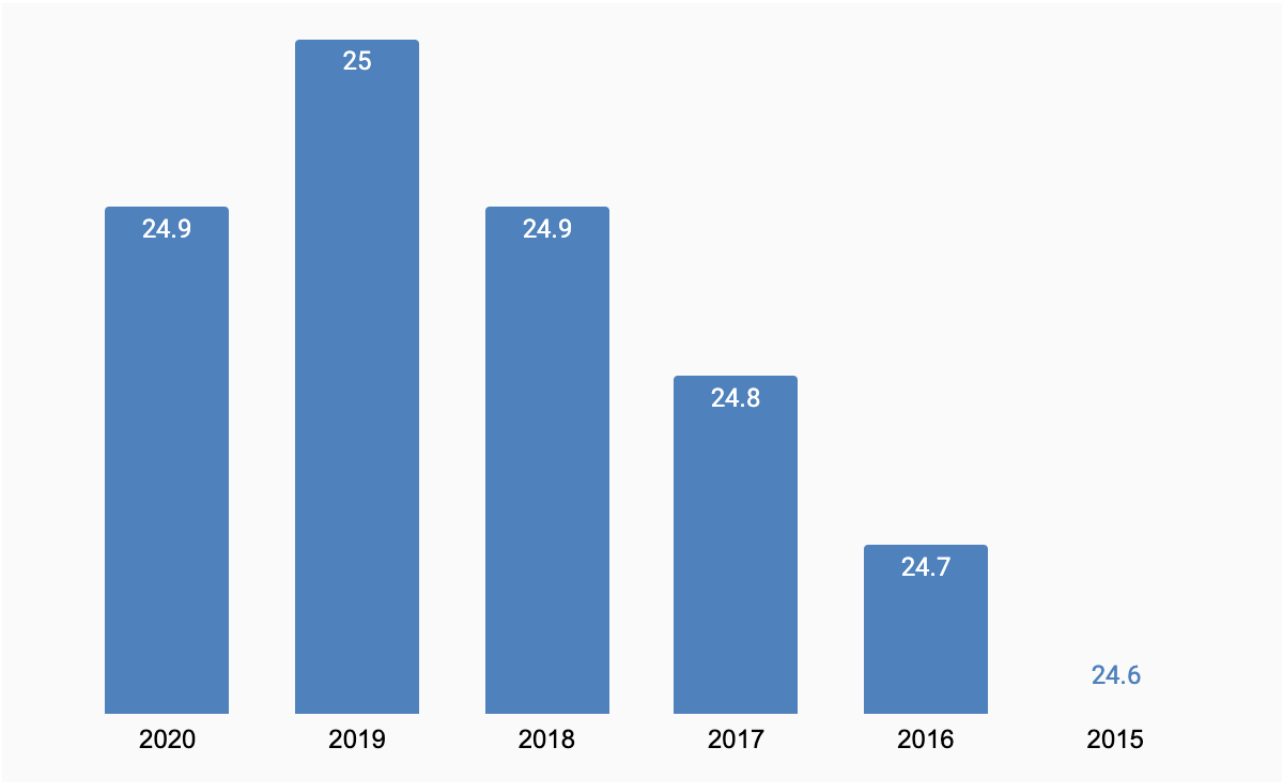
Average Energy Costs  
(% of household income): **4%**

**Portland-South Portland, ME** metropolitan area is located near the southern region of Maine. The metropolitan region consists of Cumberland County, Sagadahoc County and York County.<sup>49</sup> In 2020, the population was 536,314, with a slight increase from 2019 at 0.80 percent.

When compared to the state, the Portland-South Portland metropolitan area ranked in the 70th percentile for particulate matter 2.5 pollution levels and the top 67 percentile when measuring communities proximate to traffic. On average, residents traveled 25 minutes to work, with 33 percent of households owning three or more vehicles. Only 2 percent of households did not have access to a vehicle.

<sup>49</sup> <https://www.bls.gov/cew/classifications/areas/county-msa-csa-crosswalk.htm>

**FIGURE 1. Mean Travel Time to Work**  
Portland-South Portland MSA 2016-2020



Source: 2016-2020 ACS 5-year estimates

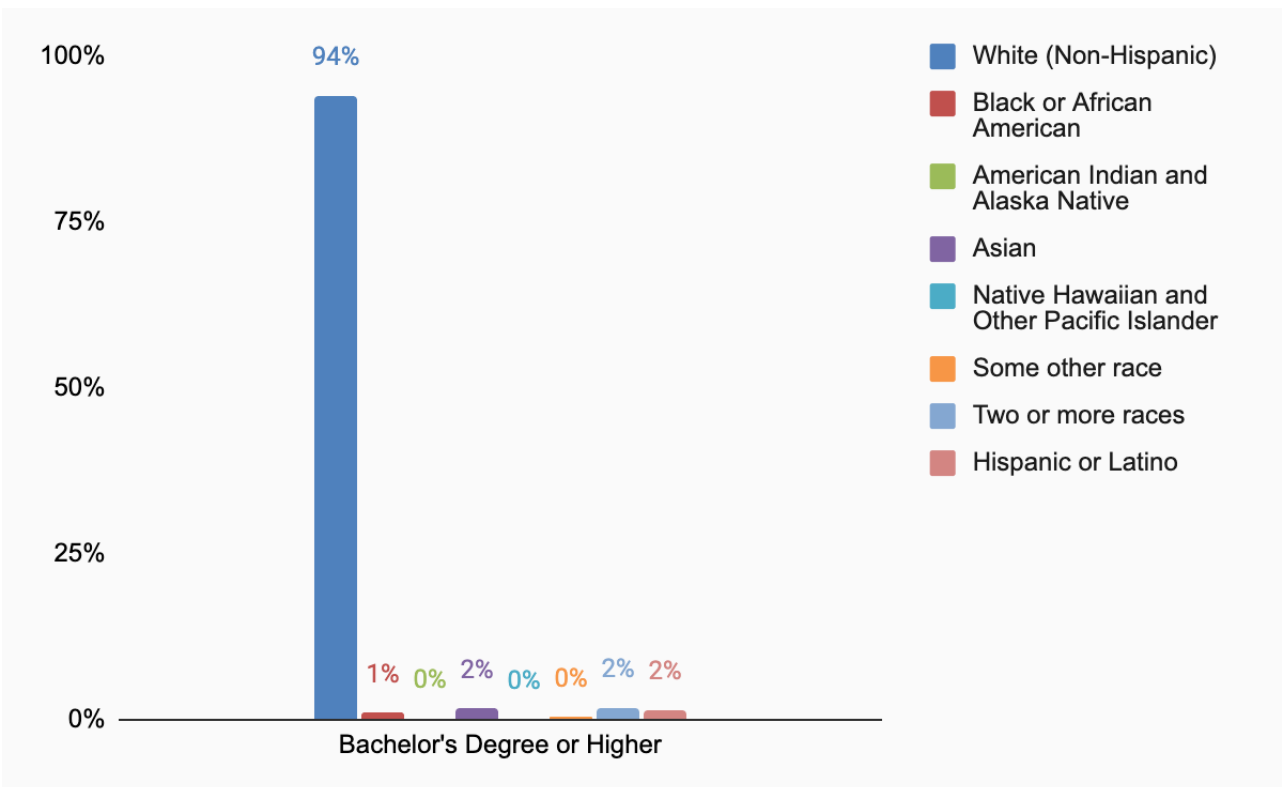
Disproportionate impacts to health and pollutant exposure is largely associated with race/ethnicity and income. Historically under-represented communities represent 5 percent of the Portland metro population. Overall, 6 percent of the residents identify as non-White, 5 percent have less than a high school education, 2.5 percent are unemployed, 10 percent have incomes at or below 65 percent below the state median income, and 1 percent live in limited English-speaking households.

On average, there were 47.8 times more White (Non-Hispanic) residents than any other race or ethnicity in 2020. Of the total population, 91 percent of the residents identify as White, 2 percent Hispanic or Latino, 2 percent Black or African American and 1.7 percent Asian America. The share of Hispanic or Latino and Black or African American residents is slightly higher compared to the state population. In Maine, 1.7 percent of residents identify as Hispanic or Latino, while 1.3 percent identify as Black or African American.

# Portland-South Portland MSA

## Workforce Ecosystem *continued*

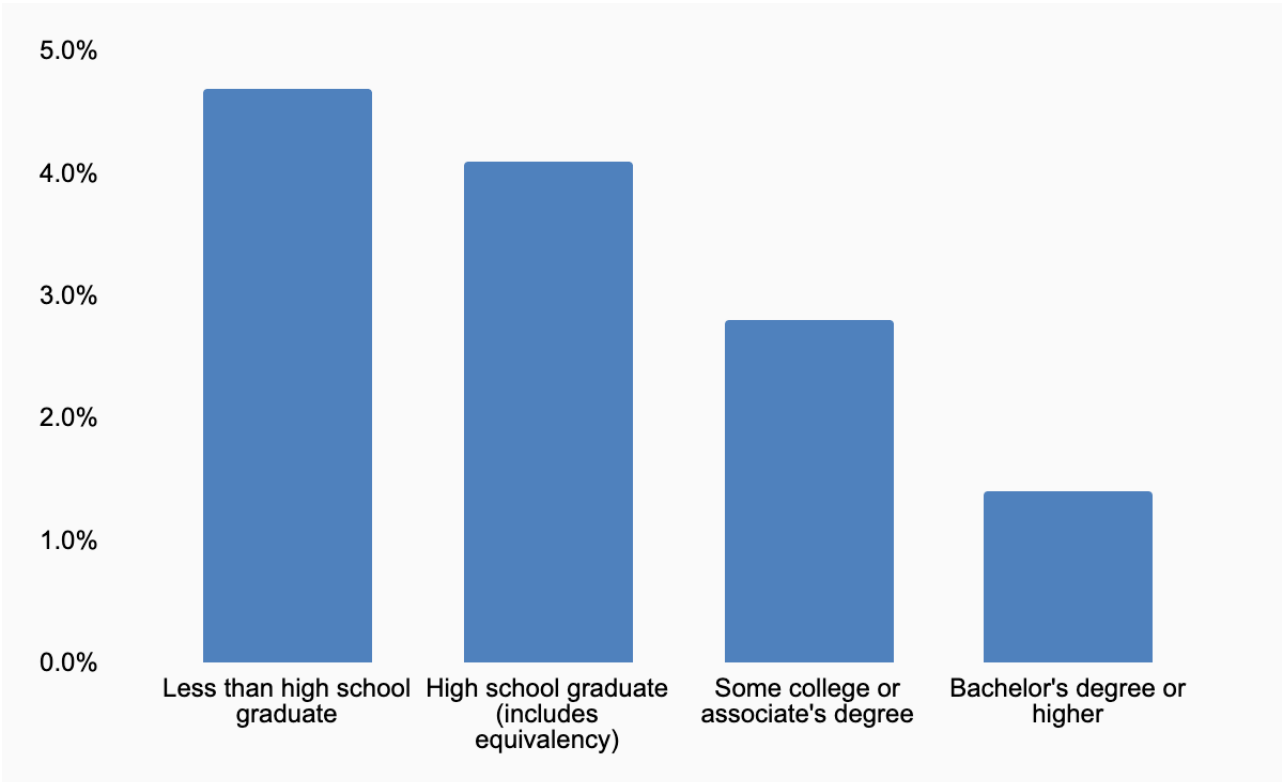
**FIGURE 2. Race/Ethnicity by Educational Attainment**  
Portland-South Portland MSA 2020



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, 5% of residents earned less than a high school diploma, while 25% have high school diplomas with no other formal education. Figure 2 shows race & ethnicity by distribution for the Portland metro area in 2020. Of those who attained a bachelor's or higher, only 1 percent identify as Black or African American.

**FIGURE 3. Unemployment Rate by Educational Attainment**  
Portland-South Portland MSA 2020

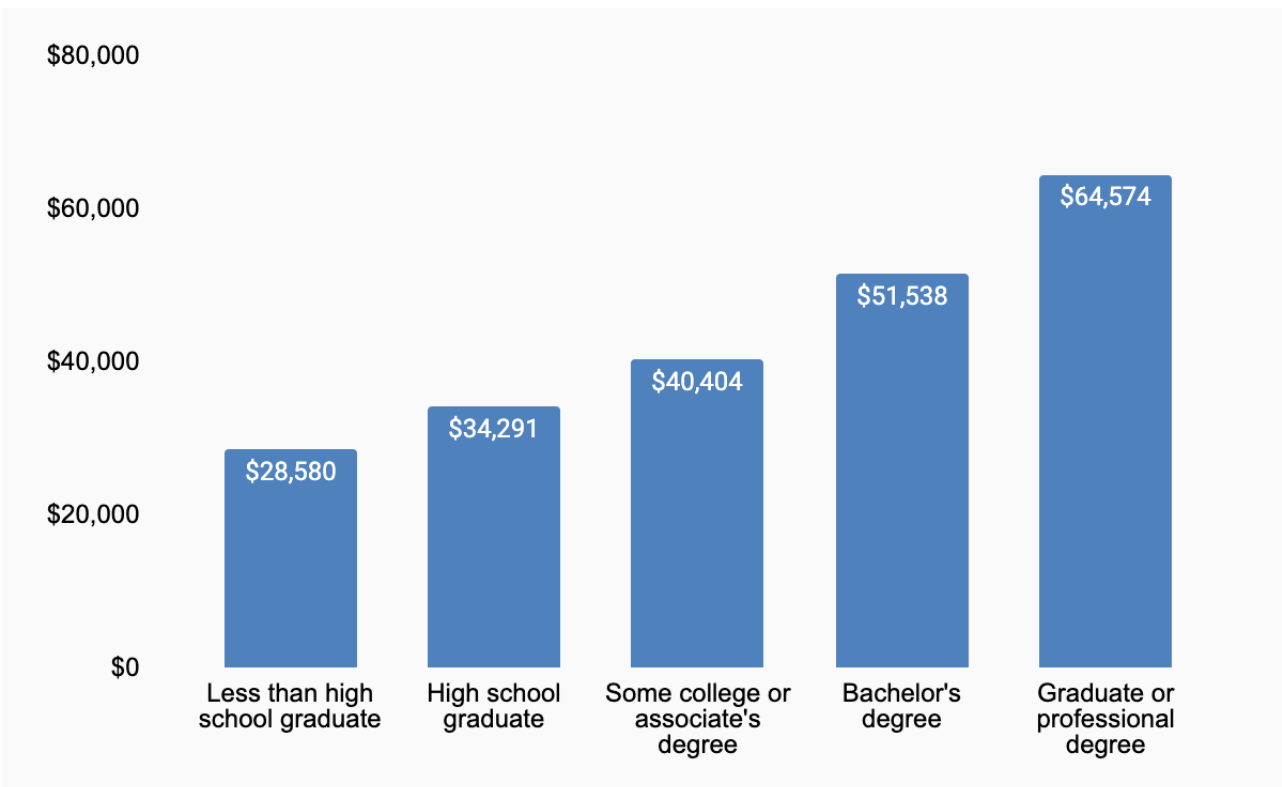


Source: 2020 ACS 5-year estimates

The unemployment rate in 2020 for individuals 25 to 64 years and older was 2.5 percent. However, for those who attained less than a high school diploma or earned a high school diploma, the rate is higher at 4.7 percent and 4.1 percent, respectively. Unemployment rates among residents with a bachelor's or higher is significantly lower than the Portland metro unemployed population at 1.4 percent (Figure 3).



**FIGURE 4. Median Earnings and Educational Attainment**  
Portland-South Portland MSA 2020



Source: 2020 ACS 5-year estimates

Higher earnings also correlate with educational attainment. Workers with a bachelor’s earned nearly \$23,000 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, 9 percent of the Portland metropolitan population speak a language other than English at home with Indo-European being the most common language at 6 percent, followed by Spanish-speaking households at 1 percent and Asian and Pacific Island households at 1 percent.

Collectively, 1 percent of residents speak limited English at home.

**Portland MSA Clean Energy Workforce 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
<b>Ecosystem Manager (AKA “Backbone Team”)</b>	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"> <li>Have experience managing diverse stakeholder interests and facilitating and convening the partnership</li> <li>Are trusted in the community and perceived as an ally to people from frontline and impacted communities</li> <li>Intentionally and regularly convene community based groups and private and public sector groups within the workforce ecosystem with explicit inclusion of marginalized identities.</li> <li>Collect or support the collection of disaggregated data across the system</li> <li>Have access to funding or capacity to apply for grants to support the partnership</li> </ul>
<b>Public Facing Partnerships</b>	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"> <li>Have MOUs and/or articulation agreements between partners</li> <li>The partners are representative of the different organizations along a career pathway (CBOs, pre-apprenticeships, high schools, community colleges, apprenticeships, employers)</li> <li>The partnership has a vision, mission and goals</li> <li>The partnership prioritizes equity and pathways to quality careers (high road)</li> <li>The partnership works to calibrate training to labor market demand</li> <li>The partnership is demand-side driven</li> <li>Example</li> </ul>
<b>Centering Equity</b>	<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"> <li>Ecosystem manager leadership and the collaborative is led by members of the community and centers the lived experience of community members.</li> <li>Operate using a systems based approach</li> <li>Use of disaggregated racial data to understand where the ecosystem is and where it needs to go</li> <li>Sets goals for quality equity initiatives</li> <li>Investment in capacity of frontline organizations/CBOs</li> <li>Training organizations are based in underrepresented communities</li> <li>Public procurement policies are in place to promote utilization of MDWBEs</li> <li>Public policies set targets for apprenticeship utilization</li> <li>Public policies in place for targeted or local hire</li> <li>Providing training opportunities that prevent occupation segregation</li> <li>Inclusive hiring policies</li> <li>Organizations provide participants with comprehensive exposure to a career pathway</li> </ul>
<b>Mutual Reinforcing Actions</b>	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"> <li>Develop shared vision, mission and goals</li> <li>Work on local, state and/or federal policies that support equity goals and job quality as well as clean energy accessibility for impacted communities</li> <li>Evidence of alignment of credentials certifications, curriculum, and credits to create industry standards</li> <li>Provide work based learning and on-the-job training opportunities as well as career exposure through field trips, shadowing and presentations</li> <li>Review critical documents such as: Climate Actions Plans, Building Performance Standards, etc. to include strategies and language that support equity and economic inclusion</li> <li>Develop and implement community workforce agreements and community benefit agreements</li> <li>Engage impacted communities in policy and program design</li> <li>Work with employers to develop retention strategies for women and BIPOC employees</li> <li>Develop and adopt labor standards to ensure job quality and equitable access</li> </ul>
<b>Share Information and Best Practices</b>	WEs share information and best practices that help ecosystem partners understand and navigate the landscape	<ul style="list-style-type: none"> <li>Learn from national best practices that include equity and economic inclusion principles in their climate action and workforce development policies and programs development</li> <li>Map the workforce ecosystem and understand assets, gaps, and opportunities</li> <li>Transparent and share critical documents to help align the ecosystem</li> </ul>

## Portland–South Portland 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

The city of Portland and South Portland developed a joint climate action plan demonstrating their commitment to address climate change in partnership. The plan includes goals to reduce greenhouse gas emission as well as prepare communities for the effects of climate change, with key focuses on building and energy, transportation and land use, waste reduction, and climate resilience. With a goal to run all municipal operations on 100 percent renewable energy by 2040, Portland and South Portland aim to build better, smarter buildings by retrofitting existing buildings, while providing financial incentives to make retrofits more affordable in the residential market. The cities aim to replace 80 percent of natural gas and fossil fuel use in residences with electric heating and cooling systems by 2050, providing a large economic opportunity in terms of construction and manufacturing jobs and small business development.

As Maine's renewable portfolio standard scales to meet 100 percent by 2050, Portland and South Portland will expand their solar capacity to generate all municipal electricity with renewable energy by 2032 as well as launch a community solar program to expand distributed energy resources throughout both cities.

Most recently, South-Portland pursued a 1.3 million kilowatt-hour off-site solar project to meet 80 percent of the City's electricity needs, with the remainder potentially supplied by onshore or offshore wind through power purchasing agreements providing another huge economic development for the region.<sup>50</sup>

#### STRENGTHS

Maine's leadership and recent actions towards achieving clean energy, equity and economic goals has fostered momentum and burgeoning collaborations at the state and regional levels. The State's prioritization of high-road jobs in solar and offshore wind along with the commitment to diversity, equity and inclusion hiring in the public and private sector, has led to the allocation of a combined \$3 million in funding to support diverse hiring, prevailing wages and the development of registered apprenticeship programs for the renewable energy sector.

Similarly, the State is focused on convening tables to forge collaborations among stakeholders within the ecosystems. The state's Climate Council will convene community-based organizations and others that work on issues related to climate and equity, while the state's Clean Energy Partnership will convene stakeholders in the infrastructure and clean energy sectors such as the Governor's Office, the state Department of Labor, the state Economic and Community Development Department, community colleges, organized labor and the private sector.

The State has a strong partnership with the Maine Building and Construction Trades Council, which has demonstrated public commitments to equity and supporting more underrepresented communities in the trades to gain access

<sup>50</sup> [https://www.oneclimatefuture.org/wp-content/uploads/2021/02/OneClimateFuture\\_FinalJan2021\\_Downsize.pdf](https://www.oneclimatefuture.org/wp-content/uploads/2021/02/OneClimateFuture_FinalJan2021_Downsize.pdf)

## Portland-South Portland MSA

### Workforce Ecosystem *continued*

to climate employment opportunities. Federal funds have enabled the Maine State Building and Construction Trades Council to develop an MC3 pre-apprenticeship program for people from underrepresented communities—women, BIPOC, justice involved individuals, single parents, which is slated to launch its first cohort since COVID in May 2023.

Another significant training asset is Southern Maine Community College, which has a robust Industrial Technology and Transportation Pathway offering a dozen certificate and associate degree programs in construction and climate sector industries. The college offers free tuition to high school graduates from 2020–2023, financial aid and has the lowest tuition fees in New England, making classes more accessible for people from low-moderate income families. The college also offers individual advising and career counseling and has relationships with many local businesses that provide students with internships and job opportunities.

#### CHALLENGES

There is a current labor shortage in the construction sector that will be further exacerbated by the increased opportunities in the clean energy sector and an influx of workers retiring from the field, known as the “gray tsunami.” Currently, many people who work in the construction industry are undocumented workers that face obstacles in the workplace and don’t always have access to work safe environments that pay good wages.

The existing workforce training infrastructure could benefit from more community-based workforce development to build regional capacity. Navigating the clean energy workforce landscape is challenging among the partners,

as industry acronyms and lingo are barriers to understanding and navigating the sector. There is a need for cohesion in the ecosystem. Similarly, greater efforts are needed to educate and promote clean energy jobs as more opportunities for youth become available. There is a stigma associated with jobs in construction among youth, where many clean energy jobs exist.

#### OPPORTUNITIES

Given the current shortage in the labor market there is an opportunity to scale and increase MC3 pre-apprenticeship programs that provide an on-ramp into construction and clean energy careers, particularly for jobs in offshore wind. While these jobs don’t exist at present, there will be demand for workers in the near future. Developing an economic inclusion plan for offshore wind will ensure that these jobs are accessible to individuals from underrepresented communities. Funding for community-based organizations to provide basic industry skills training and wrap-around services will increase the likelihood of participants successfully matriculating through pre-apprenticeship and apprenticeship programs towards employment.

Furthermore, there is opportunity for regional collaboration. While there is an existing infrastructure between partnered organizations, there could be greater linkages between contractors, the Building and Construction Trades council, nonprofit workforce training organizations, community colleges, and community-based organizations. In the residential decarbonization sector, there is an opportunity to cultivate small business contractors and support BIPOC workers entering this industry.

In particular, the Portland Housing Authority could provide a tremendous opportunity to

# Portland-South Portland MSA

## Workforce Ecosystem *continued*

meet Maine’s clean energy goals while fostering regional collaboration and the creation of high-road jobs through policies like HUD Section 3. This federal guidance has been in place for public housing since 1968. It establishes priorities for employment and contracting for public housing programs,<sup>51</sup> could ensure employment and other economic opportunities are directed towards low-income and very low-income people, especially those who are recipients of government assistance. The HUD Section 3 policy mandates contractors make concerted efforts to employ participants from YouthBuild, a federally funded program housed in LearningWorks a community-based organization. This policy is likely to gain traction as the Portland Housing Authority Buildings moves towards its decarbonization goals. This could significantly move the needle on both climate goals and diversifying the industry. If Section 3 is seriously implemented by the Housing Authority, it could shape procurement practices related to the

climate sector and increase the likelihood for employment of individuals living in and around Portland Housing Authority properties.

### CONSIDERATIONS

Peripheral communities have limited access to climate workforce opportunities as a fraction of climate projects occur in rural communities when compared to urban areas. More education and outreach programs are needed to educate communities about the incentives and workforce opportunities for building upgrades and energy generation. Increased funding could also support on-the-job-training programs as an alternative approach for providing accessible employment opportunities. Additionally, further legislation and policies that promote job quality, labor standards, registered apprenticeship standards and gender and racial diversity benchmarks are needed to ensure clean energy jobs are quality jobs, inclusive and accessible for people historically under-represented in the sector.

**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

<sup>51</sup> <https://ha.internationalprocurement.com/files/requests/RFPs/9044/8.4%20-%20Attachment%20G-4%20%28Section%203%20Plan%29.pdf>

LEARN MORE

Access the full New England Clean Energy Workforce Assessment Report and supporting materials at: [barrfoundation.org/ceworkforcedev](https://barrfoundation.org/ceworkforcedev)