2014 Cluster Workforce Updates

Energy

Bureau of Labor Market Information and Strategic Initiatives
Introduction

Produced through a partnership between the Bureau of Labor Market Information and Strategic Initiatives (LMISI) and the Workforce Development Agency (WDA), the 2014 Cluster Workforce Updates are intended to revise the key occupation tables found in the Cluster Workforce Analysis publications released in January 2013.

Key occupations include job titles that show a favorable mix of employment indicators as measured by LMISI and that were identified by the WDA Industry Talent Directors as being important to their respective clusters today and in the future.

The Energy Cluster is divided into four subsectors: Energy efficiency, Alternative and renewable energy, Utilities, and Oil and gas exploration, extraction, and wholesaling. While many of the key occupations identified in this report are concentrated in the cluster, others are found throughout the economy.

With an emphasis on occupations, this report provides an analysis of important indicators, including employment, earnings, education and training requirements, and real-time and projected demand. For additional demographic or labor market information and resources, please visit our website at www.michigan.gov/lmi.
The Energy Cluster

- The Energy Cluster contains many high-wage occupations that are expected to grow through 2020. Additionally, many of these job titles are currently in high demand. For example, *Heating, air conditioning, and refrigeration mechanics and installers* earn a median wage of more than $21 per hour, boast 415 current vacancies, and are expected to grow 18.7 percent through 2020, generating 226 job openings each year.

- All top occupations in the Energy Cluster have above-average earnings, ranging from almost $17 per hour to nearly $47 per hour. Importantly, this includes skilled-trades occupations, which may require long-term on-the-job training or vocational and technical training.

- While the Energy Cluster includes several engineering occupations requiring at least a bachelor’s degree, most of the cluster’s key occupations require an apprenticeship, non-degree award, or on-the-job-training.

- According to The Conference Board’s Help Wanted Online database, key occupations in the Energy Cluster with the most online advertised vacancies include *Mechanical engineers, Supervisors/managers of construction trades and extraction workers*, and *Construction laborers*. Overall, occupations with many vacancies vary greatly in their education requirements and their median hourly wages.

- Due to the emergence of green jobs, many occupations within the Energy Cluster are becoming more diverse. In fact, many important occupations within the cluster, such as *Wind turbine service technicians* and *Solar photovoltaic installers*, are newly recognized occupations by the Bureau of Labor Statistics in their Standard Occupational Classification system.
# Key Occupations in the Energy Cluster

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Total Michigan Employment</th>
<th>Employment in Cluster</th>
<th>Median Wage</th>
<th>Total Annual Openings</th>
<th>Real-Time Demand</th>
<th>Education or Training Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineers</td>
<td>32,640</td>
<td>12,770</td>
<td>$41.93</td>
<td>1,297</td>
<td>2,606</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Business Operations Specialists, All Other</td>
<td>30,270</td>
<td>5,230</td>
<td>$29.97</td>
<td>1,155</td>
<td>403</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>21,000</td>
<td>8,560</td>
<td>$16.92</td>
<td>379</td>
<td>858</td>
<td>Less than high school</td>
</tr>
<tr>
<td>Electricians</td>
<td>17,550</td>
<td>9,990</td>
<td>$27.28</td>
<td>547</td>
<td>476</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Carpenters</td>
<td>13,240</td>
<td>3,300</td>
<td>$20.24</td>
<td>472</td>
<td>910</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Plumbers, Pipefitters, and Steamfitters</td>
<td>10,560</td>
<td>6,650</td>
<td>$26.71</td>
<td>405</td>
<td>306</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>First-Line Supervisors/Managers of Construction Trades and Extraction Workers</td>
<td>9,640</td>
<td>4,240</td>
<td>$28.25</td>
<td>361</td>
<td>890</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Engineers, All Other</td>
<td>8,060</td>
<td>2,780</td>
<td>$41.43</td>
<td>286</td>
<td>211</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Operating Engineers and Other Construction Equipment Operators</td>
<td>6,550</td>
<td>3,820</td>
<td>$21.25</td>
<td>257</td>
<td>107</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</td>
<td>6,460</td>
<td>4,240</td>
<td>$21.54</td>
<td>226</td>
<td>415</td>
<td>Postsecondary non-degree award</td>
</tr>
<tr>
<td>Civil Engineers</td>
<td>5,960</td>
<td>3,390</td>
<td>$32.91</td>
<td>198</td>
<td>336</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Electrical Power Line Installers and Repairers</td>
<td>3,640</td>
<td>3,180</td>
<td>$31.76</td>
<td>100</td>
<td>10</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Cement Masons and Concrete Finishers</td>
<td>2,900</td>
<td>2,340</td>
<td>$19.17</td>
<td>98</td>
<td>140</td>
<td>Less than high school</td>
</tr>
<tr>
<td>Electrical and Electronics Repairers, Powerhouse, Substation, and Relay</td>
<td>960</td>
<td>760</td>
<td>$31.48</td>
<td>33</td>
<td>8</td>
<td>Postsecondary non-degree award</td>
</tr>
<tr>
<td>Nuclear Engineers</td>
<td>430</td>
<td>390</td>
<td>$46.91</td>
<td>9</td>
<td>4</td>
<td>Bachelor’s degree</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Market Information and Strategic Initiatives / The Conference Board Help Wanted Online®
What’s New from LMISI?

The 2014 Cluster Workforce Updates are just one example of the many publications by the Bureau of Labor Market Information and Strategic Initiatives. Serving a diverse group of customers, our products range from workforce data to customized products and publications. Highlighted below are some of our more recent products. These and more can be found on our website at: www.michigan.gov/lmi.

Regional Career Outlook Brochures (2010 - 2020)

Published for Michigan's 18 Economic Forecast Regions (EFRs), these Career Outlook Brochures use our occupational long-term forecasts to list the top 15 to 20 occupations in the region based on a variety of factors. The lists provided for each region are based on education, annual openings, and real-time demand using the data series from The Conference Board Help Wanted OnLine® (HWOL).

Regional Prosperity Initiative: Real-Time Labor Demand Snapshots

Published for the State's 10 Prosperity Regions, these monthly reports use The Conference Board Help Wanted OnLine® (HWOL) Data Series to provide a high-level overview of in-demand occupations, top advertising employers, education and training requirements, and the location of advertised vacancies for each of Michigan’s 10 Prosperity Regions.

Michigan Economic and Workforce Indicators and Insights—Summer 2014

These profiles provide labor market information to support the Regional Prosperity Initiative. Included is information and analysis on the topics of population and demographics, labor force, employment, and unemployment, commuting patterns, industry employment and job trends, occupational employment and wages, and occupational demand, both real-time and forecasted.

Youth and Young Adults and the Michigan Labor Market

This study examines the important topic of teens and young adults in the labor market. This report provides workforce development professionals with timely, relevant, and accurate information on subjects including: demographics, labor force, and unemployment; industry and occupational employment; educational attainment and job market success; migration of youth; and employment and skill outlook.
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