

# 2014 Cluster Workforce Updates *Energy*

Bureau of Labor Market Information and Strategic Initiatives



Michigan Bureau of Labor Market Information and Strategic Initiatives

September 2014

## 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](http://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.

***“Many of the top occupations in Michigan’s Energy Cluster are expected to grow faster than the state average between now and 2020.”***



---

### ENERGY

---

#### OUTLOOK

There are currently 89,000 jobs in the Energy Cluster. The Cluster is expected to grow 7.1 percent between 2010 and 2020.

- 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

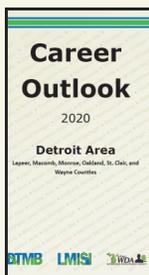
Occupation	Total Michigan Employment	Employment in Cluster	Median Wage	Total Annual Openings	Real-Time Demand	Education or Training Required
Mechanical Engineers	32,640	12,770	\$41.93	1,297	2,606	Bachelor's degree
Business Operations Specialists, All Other	30,270	5,230	\$29.97	1,155	403	High school diploma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

Source: Bureau of Labor Market Information and Strategic Initiatives / The Conference Board Help Wanted Online<sup>®</sup>

# What's New from LMISI?

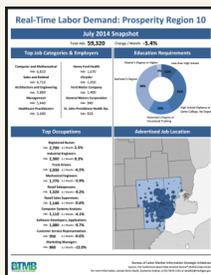
The *2014 Cluster Workforce Updates* are just one example of the many publications by the Bureau of Labor Market Information and Strategic Initiatives. Serving a diverse group of customers, our products range from workforce data to customized products and publications. Highlighted below are some of our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

## Regional Career Outlook Brochures (2010 - 2020)



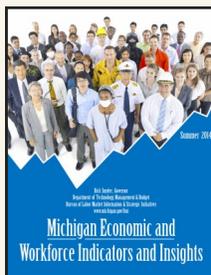
Published for Michigan's 18 Economic Forecast Regions (EFRs), these Career Outlook Brochures use our occupational long-term forecasts to list the top 15 to 20 occupations in the region based on a variety of factors. The lists provided for each region are based on education, annual openings, and real-time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

## Regional Prosperity Initiative: Real-Time Labor Demand Snapshots



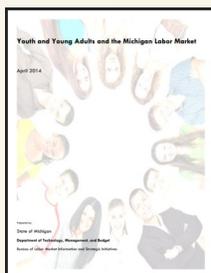
Published for the State's 10 Prosperity Regions, these monthly reports use The Conference Board Help Wanted OnLine® (HWOL) Data Series to provide a high-level overview of in-demand occupations, top advertising employers, education and training requirements, and the location of advertised vacancies for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



## **State of Michigan**

Department of Technology, Management, and Budget  
Bureau of Labor Market Information and Strategic Initiatives

### **Detroit Office**

Cadillac Place  
3032 West Grand Blvd. Suite 9-100  
Detroit MI 48202  
Phone: (313) 456-3100

### **Lansing Office**

Victor Office Center  
201 North Washington Square  
Lansing, MI 48913  
Phone: (517) 241-9857

September 2014