

Midwest

Executive Summary

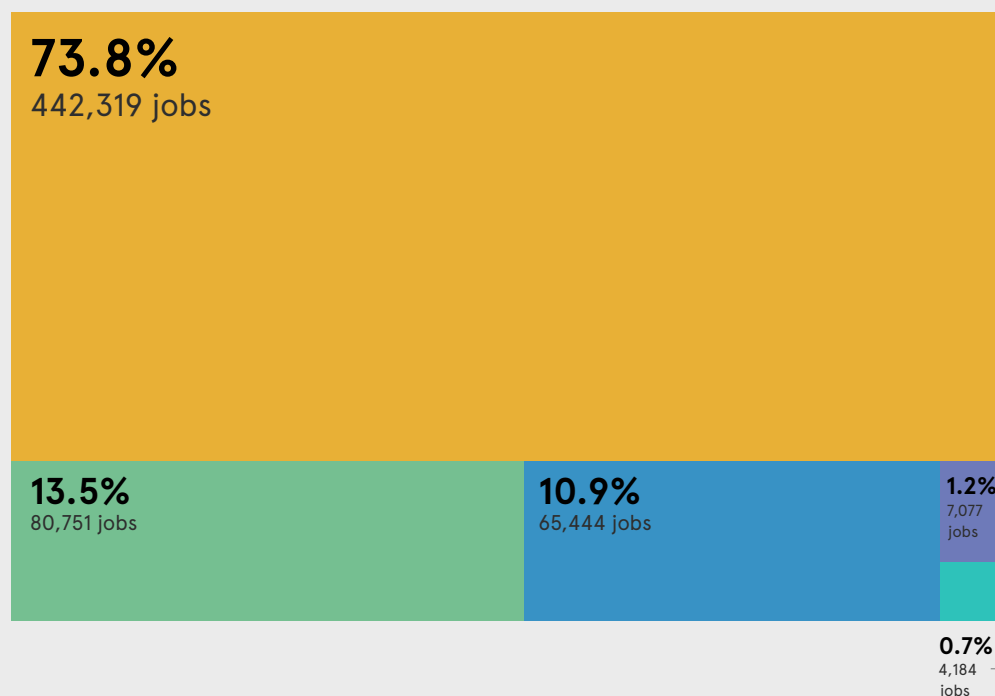
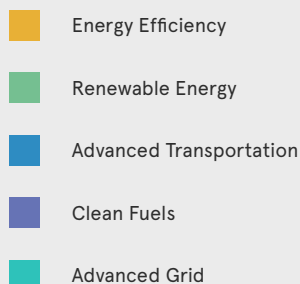
599,775 workers are employed in clean energy sectors.

Clean Jobs Midwest is a survey of clean energy employment in 12 Midwestern states—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. The region employs 599,775 workers in sectors including renewable energy generation, advanced grid, energy efficiency, clean fuels, and advanced transportation. Between 2015 and 2016, clean energy jobs in the Midwest grew by more than 5%, adding 30,795 jobs. The clean energy economy is creating jobs approximately five times faster than the rest of the economy in the Midwest.¹

¹ Overall employment data comes from the [Bureau of Labor Statistics'](#) annual average of employment by state.

Sector Breakdown

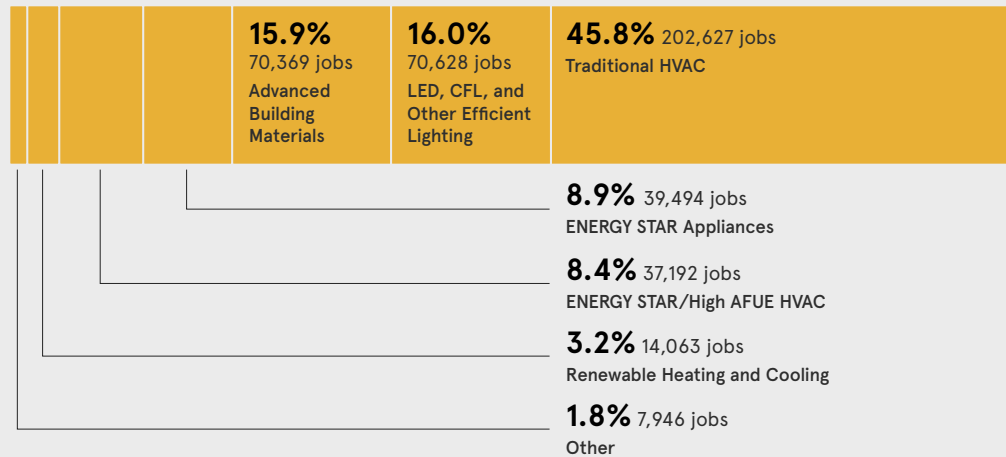
Fig. 1: Clean Energy Technology Sectors, 2016



442,319—or three out of four—of these jobs are in energy efficiency, the region's largest clean energy sector. Between 2015 and 2016 the sector added 18,771 jobs in the region, which is a growth rate of more than 4%. These jobs include hardware and software implementers, contractors who can diagnose, adjust and verify the efficiency of heating, ventilation, and air conditioning (HVAC) systems, and system technicians. As a percentage of the labor force² Kansas, Minnesota, and North Dakota lead the Midwest in energy efficiency employment. Illinois, Ohio, and Michigan had the largest energy efficiency workforces by absolute size.

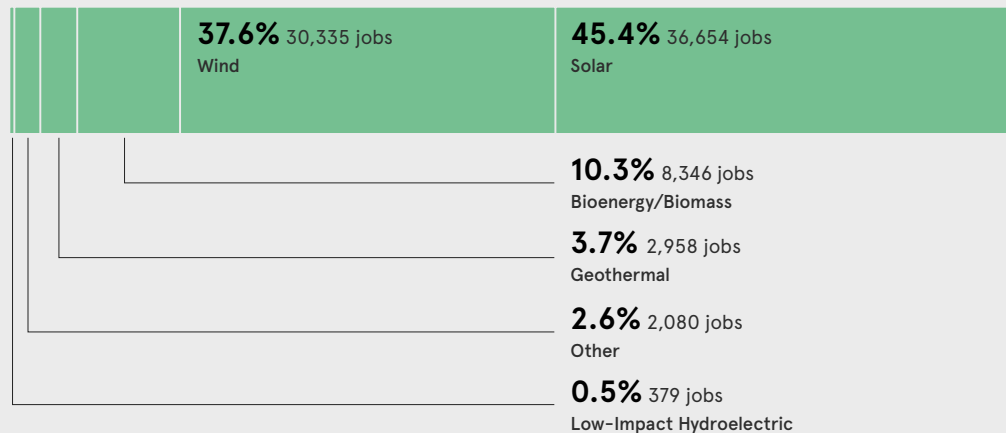
² Size of the labor force by state also comes from the [Bureau of Labor Statistics](#)

Fig. 2:
Energy Efficiency
Subsectors, 2016



Jobs in renewable energy generation are a large factor in the overall growth in clean energy. Approximately 13% of the area’s jobs are in renewable energy generation like wind and solar. This sector is also the fastest growing in terms of jobs, having grown by more than 15% between 2015 and 2016 in the Midwest. Beyond wind and solar, renewable energy generation jobs also include jobs in geothermal, bioenergy, and low-impact hydroelectric power. As a percentage of the labor force, North Dakota, Iowa, and Nebraska lead the Midwest in renewable energy generation employment. Illinois, Michigan, and Ohio lead in total number of jobs.

Fig. 3:
Renewable Energy
Subsectors, 2016



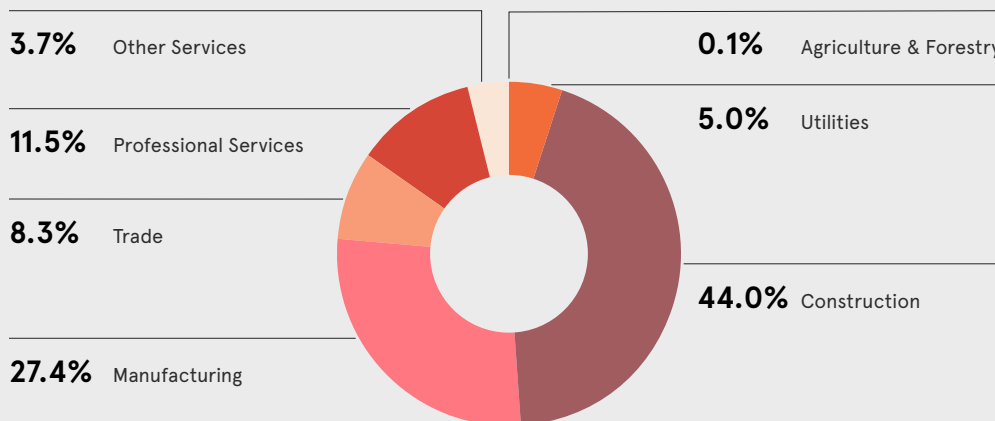
1 in 10 clean energy workers are employed in the advanced transportation industry. This includes hybrid and plug-in electric vehicles, alternative fuels vehicles, and fuel cell vehicles. Michigan leads the region in absolute number of jobs in this sector and as a percentage of the state’s labor force. This highlights a shift within traditional automotive industries toward more alternative and advanced vehicles throughout the supply chain.

The clean fuels and advanced grid sectors employ 7,077 and 4,184 Midwestern workers respectively.

Value Chain

Clean energy jobs can also be described by what role they play in the larger economic value chain. This report divides these clean energy jobs into agriculture jobs, utility jobs, construction jobs, manufacturing jobs, trade jobs, professional service jobs, and other service jobs. The divisions in the value chain described here include jobs from multiple technology sectors. For example, construction jobs can include some jobs in the energy efficiency sector as well as jobs in the renewable energy sector and every other technology sector.

Fig. 4: Clean Energy Jobs Value Chain, 2016



Clean energy jobs include many good, blue-collar jobs. In the Midwest, 44% of all clean energy jobs were in construction—264,155 jobs. Manufacturing accounted for 164,164 more jobs—over 27% of all clean energy jobs.

Fig. 5: Top 3 MSAs in Clean Energy Employment, 2016 (job numbers rounded to nearest hundred)

MSA job numbers only include jobs within the state in the first column

State	Metro Area (MSA)	Total Clean Energy Employment	Renewable Energy Employment	Energy Efficiency Employment
IL	Chicago-Naperville-Joliet, IL-IN-WI MSA	85,600	11,000	63,100
MN	Minneapolis-St. Paul-Bloomington, MN-WI MSA	40,100	4,700	33,000
MI	Detroit-Warren-Livonia, MI MSA	39,300	5,500	21,400

Recap

In 2016, there were 599,775 clean energy jobs in the Midwest. These jobs grew by 5.4% between 2015 and 2016, approximately 5 times faster than overall job growth in the region. The biggest growth came from the renewable energy generation sector while the energy efficiency sector employed the most workers in the region.

Clean energy jobs are all-American, blue-collar jobs with 7 in 10 clean energy jobs in construction and manufacturing. They are found across urban and rural areas, and many are with small businesses.³

³ Clean Jobs Midwest 2016

The clean energy economy is growing in every Midwestern state, but clean energy can grow even faster. By implementing good public policy—such as state renewable portfolio standards and energy efficiency standards—we can create even more clean energy jobs across the region. As this survey shows, the Midwest is at the forefront of our nation’s clean energy future. The industry is bringing new jobs and economic growth to our own backyards.