



North Dakota: Home to 9,067 Clean Energy Jobs

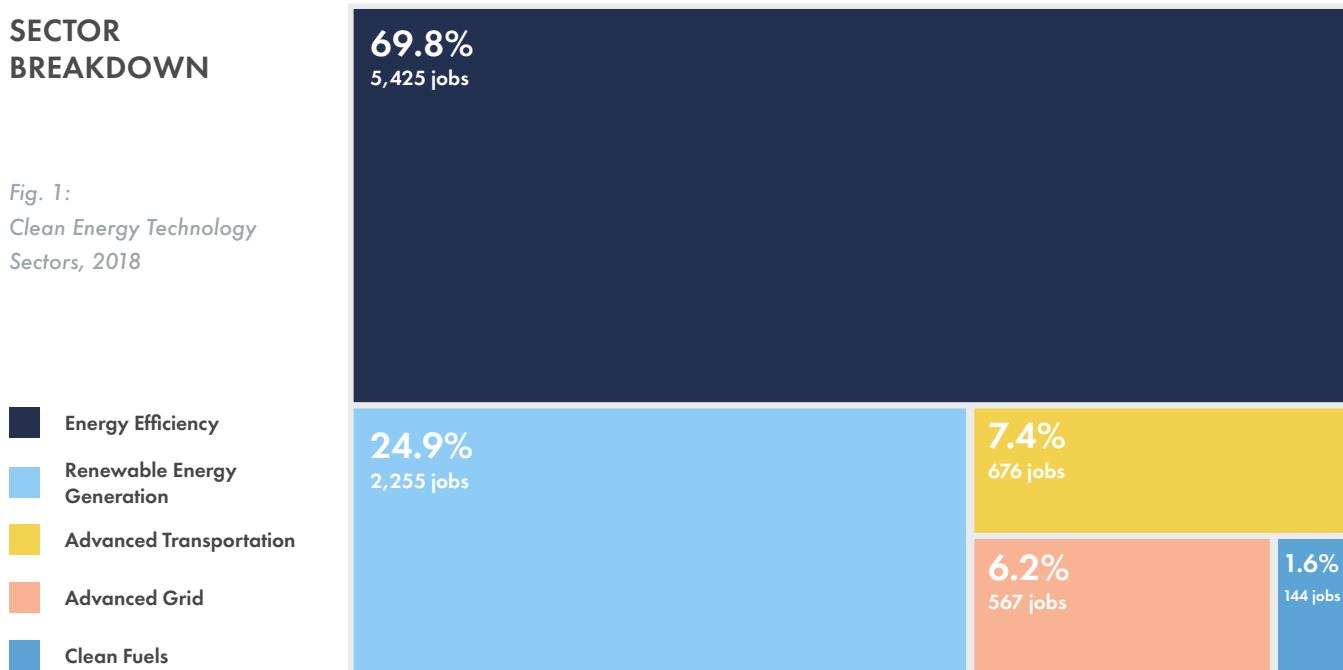
NORTH DAKOTA CLEAN ENERGY JOBS UP 4.3 PERCENT IN 2018

Clean energy is a major employer in North Dakota with 9,067 jobs. In 2018 in North Dakota, 376 jobs were added in the clean energy industry, a year-over-year growth rate of 4.3 percent, slightly faster than clean energy job growth in the Midwest overall.

Energy efficiency jobs remain the largest individual sector in terms of North Dakota clean energy employment with 60 percent of all clean energy jobs across the state. Compared to the rest of the region, North Dakota clean energy employers have a less-optimistic outlook for job growth this year. Whereas employers across the Midwest project a 7 percent growth in jobs, in North Dakota that number is 1.8 percent, with about 160 jobs expected to be added in 2019.

SECTOR BREAKDOWN

Fig. 1:
Clean Energy Technology
Sectors, 2018



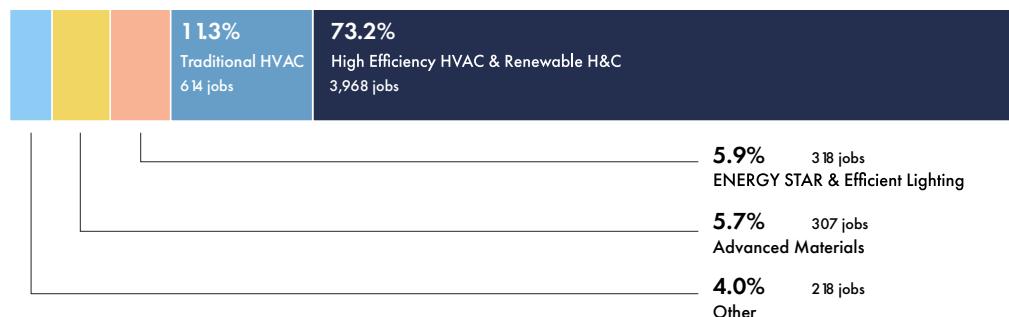
1. Unless otherwise stated, all data is based on the 2019 USEER. Energy Futures Initiative. (2019). The U.S. Energy Employment Report. Washington, DC. www.usenergyjobs.org. The Data provided relies on thousands of data points provided via survey. EFI, NASEO and BWRP have made every effort to supply current and accurate information but assume no responsibility or liability for any decisions based upon the information presented. For more information on the survey methodology see cleanjobsmidwest.com/about.

ENERGY EFFICIENCY IS NORTH DAKOTA'S DOMINANT CLEAN ENERGY SECTOR

More North Dakotans work in energy efficiency -- 5,425 -- than in any other sector in the clean energy industry. In 2018, North Dakota energy efficiency jobs grew by 297, good for a 5.8 percent growth rate -- twice as fast as the sector's average growth rate across the Midwest.

Energy efficiency workers do things like manufacture ENERGY STAR-rated appliances and install efficient lighting systems; tweak traditional heating, ventilation, and air conditioning (HVAC) systems; design high-efficiency HVAC units, and handle advanced building materials.

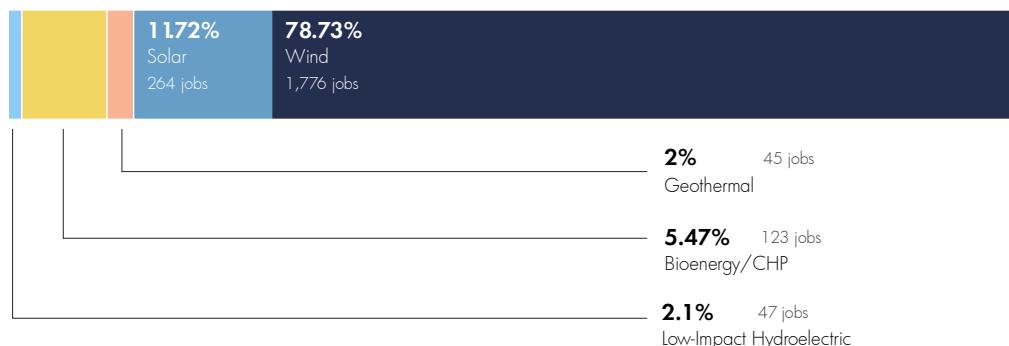
Fig. 2:
Energy Efficiency Subsectors,
2018



RENEWABLE ENERGY SECTOR EMPLOYS NEARLY 2,300 NORTH DAKOTANS

Renewable energy employs nearly 2,255 people in North Dakota, making the sector the second-largest clean energy employer in the state. About 20 renewable energy jobs were added in North Dakota year-over-year, a 1 percent increase even as renewable energy jobs fell nationally.

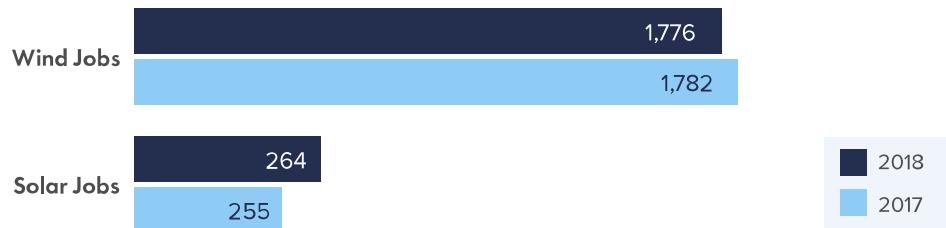
Fig. 3:
Renewable Energy Subsectors,
2018



In North Dakota, wind (1,776 jobs) and solar (264 jobs) are the two largest employers in the renewable energy sector. While North Dakota wind jobs declined 0.3 percent in 2018, solar jobs grew 3.5 percent.

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Fig. 4:
Wind and Solar Jobs, 2018 and
2017 Comparison



ADVANCED TRANSPORTATION JOBS GROW 3.2 PERCENT

Advanced transportation is North Dakota's third-largest clean energy sector in terms of jobs, employing 676 people. That's about 3.2 percent more than 2017 when the state's advanced transportation sector actually shed jobs.

Jobs relating to plug-in hybrid vehicles had a particularly strong year, surging 16.5 percent. Twenty plug-in hybrid jobs were added and now the sub-sector puts 141 people to work across North Dakota. EV jobs, meanwhile, grew by 9.7 percent to nearly 181 jobs.

ADVANCED GRID SECTOR LED BY ENERGY STORAGE

Advanced grid jobs employ 567 people in North Dakota. These jobs grew by 5.9 percent in 2018, adding 32 jobs. Energy storage is the sector's largest employer in North Dakota with 324 jobs, about 8 percent more than in 2017. The advanced grid sector also includes jobs in smart grid, microgrid, and other grid modernization work.

CLEAN FUELS JOBS HOLD STEADY

144 North Dakotans work in clean fuels jobs, a 2.6 percent increase. The clean fuels sector encompasses non-corn ethanol, non-woody biomass, and other technologies not yet in wide commercial production, including algal biofuel, syngas, bioheat blends, landfill gas, and advanced biofuels.

Fig. 5:
Top 3 MSAs in Clean Energy
Employment, 2018

Metro Area (MSA)	Total Clean Energy Employment	Renewable Energy Employment	Energy Efficiency Employment
Fargo, ND-MN MSA	2,212	624	1,259
Bismarck, ND MSA	1,311	307	802
Grand Forks, ND-MN MSA	661	152	406

CLEAN ENERGY INDUSTRY OUTLOOK

Clean energy jobs in North Dakota constitute 2.3 percent of all jobs in the entire state and remain a bright spot in the North Dakota labor market. While the state shed about 10.1 percent of its jobs in the overall economy in 2018, the clean energy industry actually grew 4.3 percent.

Looking toward the future, clean energy employers in North Dakota anticipate adding jobs at a 1.8 percent clip in 2019. Compared to the rest of the Midwest, this is a relatively low projection. Overall, Midwestern clean energy employers anticipate a 7 percent growth in clean energy jobs this year.

The North Dakota growth predictions may be related to the fact that employers reported difficulty hiring -- every one of the North Dakota clean energy employers surveyed reported that it was "somewhat" or "very" difficult to hire workers.

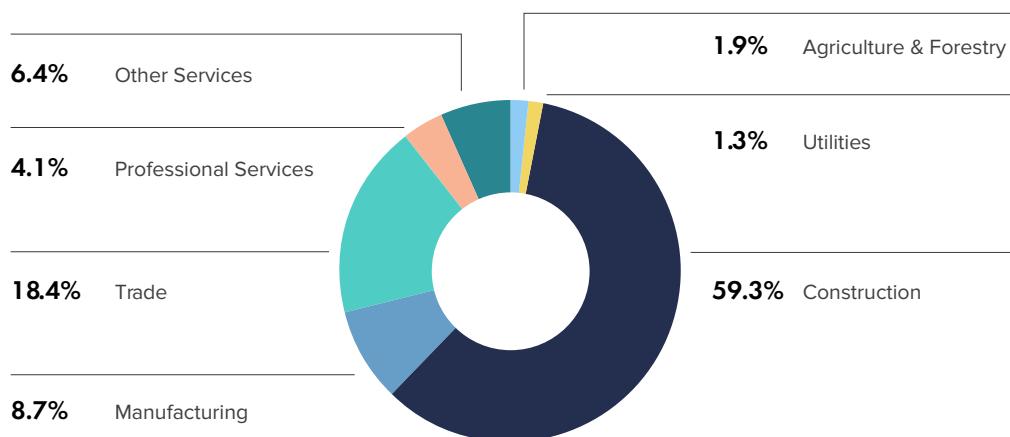
COMPARING CLEAN ENERGY JOBS TO FOSSIL FUEL JOBS

In 2018, 22,435 North Dakotans worked in fossil fuel energy jobs in industries like coal, natural gas, and oil. North Dakota is the only state in the Midwest where there are more fossil energy jobs than clean energy jobs.

VALUE CHAIN

Clean energy jobs can be categorized by the role they play in the value chain. This report divides the clean energy jobs value chain into the following categories: agriculture, utility, construction, manufacturing, trade, professional service, and other service jobs. Each category captures jobs from multiple different clean energy sectors. For example, construction jobs can include energy efficiency jobs and renewable energy jobs.

Fig. 6:
*Clean Energy Jobs Value
Chain, 2018*



When North Dakota clean energy jobs are broken down by their placement in the value chain, construction makes up 59 percent of the jobs, while trade represents 18.4 percent.

2. U.S. Bureau of Labor Statistics Local Area Unemployment Statistics, 2018 Preliminary data

3. 2019 US Energy and Employment Report. This figure does not include gas station workers.

DEMOGRAPHICS

In North Dakota, 11.2 percent of the state's clean energy workers are veterans. By comparison, veterans make up 6 percent of the national labor force. The large ratio of veterans transitioning to clean energy jobs is partially the result of the U.S. Department of Defense's long-standing commitment to investing in renewable energy, energy efficiency, and training programs that prepare veterans for private-sector employment in industries like solar.

Small businesses drive the state's clean energy sector – 65.1 percent of North Dakota's clean energy businesses employ fewer than 20 individuals.

SUMMARY

The clean energy industry employs more than 9,000 people in North Dakota, a 4.3 percent increase over 2017. While fossil fuel jobs get the bulk of the attention in the state, the clean energy industry encompasses multiple diverse sectors that employ workers whose roles go beyond the traditional renewable energy occupations of wind technician and rooftop solar installer. In fact, North Dakota clean energy workers are involved in everything from electric vehicles and HVAC software to clean fuels and energy storage. A relatively high percentage of North Dakota clean energy workers either are veterans or work in the construction sector, while small businesses dominate the industry in the state.

In 2019, North Dakota clean energy employers anticipate some difficulties being able to hire clean energy workers. However, these employers still anticipate adding about 1.8 percent more jobs this year.

The data and analyses presented in this report by Clean Energy Trust and Environmental Entrepreneurs are based on data collected for the 2019 U.S. Energy Employment Report (2019 USEER), produced by the Energy Futures Initiative (EFI) in partnership with the National Association of State Energy Officials (NASEO) and collected and analyzed by BW Research Partnership (BWRP).

4. 2018 Bureau of Labor Statistics Current Population Survey (CPS)



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