

RENEWABLE ENERGY (SOLAR AND WIND) TECHNICIAN

Job Description: In North Dakota and in other states (particularly in the Great Plains region) there has been considerable growth of wind energy development in the past 10 – 20 years. With the installation of thousands of large wind energy turbines comes the need for trained technicians to service the wind energy equipment.

Electricity generation using solar photovoltaic arrays has seen very limited application in North Dakota. Nationally, however, the solar energy industry is experiencing rapid growth because of lower costs, concern about climate change, and incentives offered by various states and the federal government. California

alone is projecting the need for 40,000 new solar construction and maintenance jobs by 2016. These emerging renewable energy technologies need workers to perform the following tasks:

- Installing wind and photovoltaic (PV) systems in accordance with codes and standards using drawings, schematics, and instructions;
- Performing routine system maintenance and diagnosing problems with wind energy and photovoltaic systems;
- Activating wind and PV systems to verify system functionality and conformity to performance expectations;
- Checking electrical installations for proper wiring, polarity, grounding, or integrity of terminations;
- Determining appropriate sizes, ratings, and locations for system components; and
- Collecting data on renewable energy systems for testing or research analysis.

Needed Skills and Education: While some companies might train new hires, a high school education alone is usually not sufficient to land a job as a renewable energy technician. General renewable generation technology training and education is provided at community colleges and vocational-technical institutes. Programs include basic operation principles as well as maintenance and troubleshooting procedures. Since work on wind energy turbines and on solar components is often done at significant heights, safety training is also stressed. Other topics may include electronics, mechanics, hydraulics, programmable logic controllers, motor controls, and many other areas found in both renewable and other energy plants.

Wages: In North Dakota, the average annual wage for a wind turbine service technician is \$53,130. This is a fair amount above the national average wage of \$48,320. Wage information for solar technicians is currently not available for North Dakota.

Other Information: The growth outlook for renewable energy technicians in North Dakota and nationally is stable to growing. Many of the skills learned by renewable energy technicians are easily transferred to other energy fields.

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