Free wind energy in the united states essay example

Environment, Electricity

Since the earliest moments of civilization, wind energy had been implemented. The mentioned wind got used for grinding grain, powering sailboats and pumping water from wells. Categorically, before the installation of electric infrastructure in the United States, both little wind power turbines and water pumping windmills were essential. The mentioned were vital for the development of American Great Plains, as well as, the west and farming. Prevalently, the United States enjoys the resource of strong wind in the entire nation. Currently, the potential of wind energy is around ten times the quantity of electricity being consumed in the whole country. The paper endeavors to extrapolate on the wind energy in the United States.

Overall, the United States acquires 4. 1% of its electric power from wind, often adequate to power and supply approximately 15. 5 million homesteads. Categorically, there exist five states that majorly power the wind energy. The mentioned States include; Texas, California, IOWA, Oklahoma and Illinois (AWEA n. p). Texas is the national principal in wind installation and manufacturing, with an installed capacity of wind that is 12, 755 megawatts. Additionally, Texas possess 7, 986 wind turbines coupled with online wind projects of 117 making it home to six of the ten biggest farms in the United States. Also, 141. 1 megawatts and 1825. 9 megawatts got added in the year 2013 and 2012 respectively. Therefore, the total percentage of electricity in Texas by winds is approximately 8. 3%. Similarly, the amount of renewable and wind on the system connote to an onshore wind potential of eighty meters hub height. The mentioned hub height of 1, 901, 530 megawatts is often available. In the condition of the grid, ERCOT, the main Texas grid provided 9. 9 percent of electricity in the year 2013 with

a typical voltage of 9, 674 megawatts. Texas gets ranked as the best state with the most powerful wind resource in the United States of America, being able to power 3. 3 million homes. Interestingly, Texas has the capacity of producing eighteen times electricity more than the capacity of the populace needs.

Subsequently, Iowa is a national manufacturing and wind installations of energy. With regards to generation type, Iowa installed a wind capacity of 5, 177 megawatts of power, being position three for the sum of megawatts installed. Iowa boasts 3, 216 wind turbines coupled with online wind projects of 101. The mentioned gave the state a third rank regarding the quantity of utility-scale wind turbines. In 2011, 2012 and 2013, the added wind capacities were 646. 7, 814. 2 and 44. 7 megawatts respectively. The actual percentage of wind generated power in Iowa is, therefore, 27. 4 percent. However, as per the data regarding national renewable energy, Iowa possess an onshore wind potential of eighty meters hub level of 570, 714 megawatts. The Iowa environmental Mesonet, with regards to the condition of the grid, distributes current weather and wind conditions from roughly 450 monitoring stations (AWEA n. p). The cited provide data for prediction and modeling the wind power. The typical voltage of wind power in Iowa by 2013 was 5, 177 megawatts covering nearly 1. 5 million homes of Iowans. In the United States, in spite of being rank second among the sum of wind energy produced, Iowa leads with a high percentage of power generated through wind. Notably, the wind power of Iowa can meet 44 times the electric power needed by the populace.

The state of California boasts over twenty wind-related manufacturing

amenities. Prevalently, California installed a wind capacity of 5, 830 megawatts with 12, 048 quantities of wind turbines. The mentioned ranked California at position two on installed megawatts and position one for the number of utility-scale of wind turbines. In 2012 and 2013, additional capacities of wind were 1656. 2 and 269 megawatts respectively, with 144 online wind projects. California produces 6. 6 percent of wind power, a reflection of a typical voltage of 5, 830 megawatts (AWEA n. p). The amount of renewable and wind on the system is at a hub height of 34, 110 megawatts. California wind energy powers 1. 9 million homesteads, thereby, meeting 40 percent of the entire state electricity wants.

Oklahoma installed a wind capacity of 3, 334 megawatts of power with 1, 712 wind turbine quantity. The mentioned got the state ranked position six regarding total megawatts installed, and position eight with reference to the number of utility-scale wind turbines. The suggested state conducts a capacity of 29 online wind projects. Oklahoma provides a percentage of 14. 8 in its wind power production with a typical voltage of 3, 334 megawatts of power. Additionally, there exist renewable capacity 516, 822 megawatts at eighty meters hub height. Oklahoma supplies up to one million homes with power, thus, exceeding more than thirty times the current states need power.

Illinois has 2, 195 turbines coupled with 46 online wind projects as their generation types. The cited city produces 4. 7% of wind power, with a typical voltage of 3, 568 megawatts. Additionally, Illinois has a renewable amount of 249, 882 megawatts, therefore, being ranked fourth in production by powering one million homesteads. The mentioned state possesses

transmission connections to MSI and PJM regional power grids. Also, the state has connections to strong wind around cities like Springfield, Joliet, Chicago, Bloomington, and Champaign-Urbana.

In conclusion, the wind industry in the United States has made major progress in the supply of power. The suggested evidently among the five states discussed. Wind technology advances continuously to ensure adequate power supply, thereby, being a reliable source of electric power in the United States of America.

Works cited

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