

# **WIND POWER AND THE ILLINOIS ECONOMY**

*Summary of Impacts*

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# WIND POWER AND THE ILLINOIS ECONOMY: SUMMARY OF IMPACTS

## Economic Commentary #41

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### Summary

Wind power generates positive impacts for the people of Illinois. Previous investments already prevent the emission of 7.6 million metric tons of carbon dioxide from Illinois and save 4.5 billion gallons of water every year. Wind power also provides between 5,000 jobs and 10,000 jobs and generates at least \$28.5 million in property tax revenue every year in Illinois. In addition, wind power has saved Illinois residents hundreds of millions of dollars from reduced energy costs. The State of Illinois should increase investment in clean energy infrastructure to amplify these significant environmental, health, and economic benefits.

### The Environmental and Health Benefits of Wind Power to Illinois

Wind energy utilizes natural wind currents in the earth's atmosphere to produce power. Wind is a renewable resource that does not emit any harmful emissions into the atmosphere. Wind power is one of the most environmentally-friendly alternatives to the use of fossil fuels, such as oil and coal. Accordingly, wind power offers many environmental and health benefits.

The Illinois public has become more concerned with the negative impact that carbon dioxide emissions are having, and will increasingly have, on the environment. As a result, there has been a greater demand for carbon-neutral electricity. Wind power is one source of electricity that does not emit any carbon dioxide or other gas that contributes to climate change. Wind power does not produce any negative externalities from pollutants compared to an energy resource such as a coal plant– which generates significant carbon emissions ([AWEA, 2009](#)).



Photo: "Wind Turbine" is © Flickr shock264 (2010).

Expanding renewable energy production has been associated with lower levels of pollution. Nearly half of all Americans reside in counties where unhealthy levels of smog increase their risk of respiratory illnesses and lung disease ([AWEA, 2009](#)). However, reduced pollution from wind turbines has helped to prevent asthma attacks, heart attacks, and other health problems – saving the United States economy over \$100 billion in total health care costs ([Sierra Club, 2014](#)). In Illinois, wind power prevents 7.6 million metric tons of state carbon dioxide emissions annually, equivalent to the emissions of 1.6 million automobiles ([AWEA, 2016](#)).

Wind energy also saves water. The production of wind power saves 4.5 billion gallons of water consumption in Illinois every year (AWEA, 2016). Furthermore, wind power does not contaminate water with pollutants, such as mercury. By investing in wind power, private businesses and the public sector have improved environmental and health outcomes in the State of Illinois.

### **The Economic Benefits of Wind Power to Illinois**

Wind power is not only effective at helping to sustain the Earth's environment. The State of Illinois has been successful in attracting investment for large wind energy projects. The state currently ranks fifth in the nation for installed wind capacity with 3,842 MW (megawatts) installed, 2,348 wind turbines, and 46 wind projects on-line. Wind energy provided 5.5 percent of all electricity production in Illinois in 2015 – the equivalent of powering 982,000 in-state homes (AWEA, 2016). Furthermore, adding wind power to the country's electric grid has reduced wholesale power prices by \$176.8 million (Borgia, 2016). This has allowed for the creation of jobs and economic growth through increased consumer demand.

In 2014, the American wind energy industry installed a total of 4,854 MW of wind power, nearly five times more than in 2013. Additionally, by the end of 2014, wind project developers reported more than 12,700 MW still under construction across 98 projects in 23 states (AWEA, 2015). Over 18 percent of this activity is located in the Midwest, ranging from North Dakota and South Dakota to Michigan and Illinois. There are over 500 manufacturing facilities in across America that produce products for this growing industry, including 35 active facilities in Illinois (AWEA, 2016)

Installed wind power capacity in Illinois increased from 50 MW in 2003 to 3,842 MW in 2015, a nearly 7,700 percent increase in just over a decade (Loomis et al., 2012; AWEA, 2016). There have been a number of factors driving this growth. Federal and state policies, energy security concerns, environmental benefits, and economic development opportunities are all partial causes. The American Recovery and Reinvestment Act of 2009, for example, provided more than \$40 billion in funding for clean energy initiatives nationwide. At the state-level, the passage of the Illinois Power Agency Act in 2007 established a 25-percent renewable energy goal by 2025, of which 75 percent would come from wind. This legislative action helped spur investment in Illinois' wind power industry (Loomis et al., 2012).

Construction of wind energy projects creates and saves good, blue-collar construction and operations jobs that can last between 6 months and two years, depending on the size of the construction project. Direct construction and operations jobs require highly-skilled workers in construction, management, and engineering. Utility and power engineers, geophysical engineers, truck drivers, crane operators, backhoe operators, wind farm operators, laborers, electricians, and field technicians are all occupations employed at wind power installation sites.

These direct construction and operations jobs boost local economic development and provide new employment opportunities in rural communities. Wind farm installations help increase activity for local businesses that provide services during the construction period and create manufacturing jobs in rural communities. According to the Jobs and Economic Development Impacts (JEDI) Wind Energy Model developed by MRG & Associates, the 23 largest wind power projects in Illinois created or saved over 19,000 full-time equivalent jobs in all sectors of the state's economy during

their construction phases, with a total payroll of more than \$1.1 billion. In any given year, Illinois' wind industry supports between 5,000 and 10,000 total jobs (Loomis, 2012).

Investing in wind power as a source of energy helps to revitalize rural communities over the long run. The 23 largest wind power projects employ over 800 permanent jobs in rural Illinois with a total payroll of about \$48 million annually. In addition, Illinois landowners leasing their property to wind farm developers also earn an additional \$13 million every year from the agreements. Over the life of the 23 largest projects, the expected net effect is a \$5.98 billion increase in Illinois' economic output, most of which is concentrated in rural parts of the state (Loomis et al., 2012).



Photo: "Geneseo Illinois Wind Turbine" is © Flickr CinCool (2009).

Wind power also has a positive impact on tax revenues in Illinois. The 23 largest wind power projects generate \$28.5 million in annual property tax revenues (Loomis et al., 2012). Wind farm businesses raise the property tax base of a county. The vast majority of increased local government tax revenue in Illinois goes towards funding education, fire departments, police departments, and other infrastructure projects that also benefit the local economy.

### **Policy Recommendation**

The state's budget impasse has had a negative impact on the Illinois Power Agency Renewable Energy Resources Fund. Illinois lawmakers failed to enact an appropriation for the fund, which had received \$50 million the previous year. Through General Assembly action, \$8 million of administrative expensive and grants was appropriated for the Renewable Energy Resources Program from the Department of Commerce and Economic Opportunity (DCEO) in Fiscal Year 2015, but no such action was taken in Fiscal Year 2016. In his Fiscal Year 2017 state budget, the Governor has proposed an allocation of \$50 million to the Illinois Power Agency Renewable Resources Fund, including \$12 million through General Assembly action from the Illinois Commerce Commission (OMB, 2016). This proposal would restore Illinois to 2015 levels, but would result in fewer wind power and other clean energy projects due to inflation since then.

The Illinois Economic Policy Institute (ILEPI) recommends that Illinois lawmakers enact this portion of the Governor's proposed budget at a minimum. Addressing the lack of funding for the program during the past fiscal year and accounting for rising inflation would require a total overall appropriation of \$102 million in Fiscal Year 2017, though these funding levels are unlikely given current budget pressures. Conservatively, the \$50 million investment proposed in the Governor's budget would directly create at least 200 full-time equivalent jobs in Illinois and help to reduce energy prices for the entire state.



Photo: "Wind Farm Near Kewanee, Illinois" is © Flickr Ken Lund (2013).

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