

# Wind Energy Development



**ISSUE  
MEMORANDUM  
2018-01**

## Introduction

On multiple occasions, various agencies have provided in-depth study on wind energy facilities. This Issue Memorandum will provide a brief summary of the information that can be found at greater depth in those studies, as well as the history of South Dakota's laws on wind energy development.

## Wind Easements

When South Dakota started its permitting process for the siting of energy conversion and transmission facilities in 1977, wind energy was not included in the language of the legislation.<sup>1</sup> The concept of wind energy first appeared in state law in 1996 when the Legislature created "wind easements."<sup>2</sup> These are a "right, whether or not stated in the form of a restriction, easement, covenant, or condition, in any [property conveyance instrument] . . . for the purpose of ensuring adequate exposure of a wind power system to the winds." A wind easement may last up to 50 years but becomes void if no wind development occurs within five years of the grant. The law prohibits the severance of wind resources from a surface estate, but does allow for leasing rights<sup>3</sup> to those wind resources for up to 50 years. In 2009 the Legislature authorized wind easements to be encumbered by a mortgage or other security interest.<sup>4</sup>

## Issue Memorandum #2000-08

In 2000, the Legislative Research Council undertook the first study of wind energy through the publication of Issue Memorandum 2000-08.<sup>5</sup> The issue memorandum recounts the history of wind-

generated electricity and provides an overview of the potential for wind resources in South Dakota. Despite the memorandum's conclusion that South Dakota has "a tremendous wind resource," the memorandum identifies several specific challenges faced by South Dakota to undertake wind energy development, including environmental concerns, transmission line capacity, metering and billing policies, and the economic effects of wind power development on the state. The issue memorandum also provides a listing of resources for additional detailed information on wind energy.

## Excise Tax Credit/Refund

The following year, in 2001, the Legislature enacted a 100% refund, or credit, for contractors' excise taxes imposed on the construction of a new or expanded commercial small power production facility, including those built to utilize wind resources.<sup>6</sup> A "commercial small power production facility" is a facility located within one county and produces ten megawatts or less of electricity as measured by nameplate rating (number of kilowatts produced). The law limits the credit only to projects costing more than \$500,000. Under the terms of the refund, the applicant receives 90% of the refund amount

<sup>1</sup> See 1977 S.D. SESS. LAWS, Ch. 390.

<sup>2</sup> See 1996 S.D. SESS. LAWS, Ch. 260.

<sup>3</sup> For more information on wind power easements and leases, see the South Dakota Wind Power Development Handbook, available at <http://www.sdeia.com/PDF/WindPowerHandbook08.pdf>.

<sup>4</sup> See 2009 S.D. SESS. LAWS, Ch. 222.

<sup>5</sup> Available at <http://sdlegislature.gov/docs/referencematerials/IssueMemos/Im00-08.pdf>.

<sup>6</sup> See 2001 S.D. SESS. LAWS, Ch. 257.

while the Department of Revenue retains the remaining 10% until the project concludes and the department determines the applicant meets all necessary requirements.

### Wind Power Generation Committee

Also in 2001, the Legislature created the Wind Power Generation Committee, which met during the interim.<sup>7</sup> The goal of the interim committee was to study small-scale wind power generation projects and the effect of the adoption of a net energy billing provision on these projects. The interim committee also studied the potential of South Dakota as an energy exporting state.

The interim committee proposed 4 bills for the Legislature's consideration, each of which failed to be approved by the Legislature. The bills would have revised the tax refund requirement for contractor's excise taxes for new construction of any power production facility that uses renewable resources; revised the refund of contractor's excise taxes only for new construction of power production facilities that use coal or water; provided for the central assessment of renewable power companies that generate and transmit electricity from wind turbines and provide graduated property tax breaks for renewable power companies; and appropriated funding to measure wind speeds in South Dakota.

### Wind Energy Facility Permits

The Legislature added two regulations to wind energy facilities in 2003 and 2005. The first involves notification to telecommunications companies with facilities located within a mile of the proposed construction of a "wind collector system," which includes all power lines and associated equipment

located between the first substation and the wind turbines that collect electricity.<sup>8</sup> The purpose of the law is to allow for communication between the developers of the wind energy facility and the telecommunications facility regarding any "concerns with the location or engineering design . . . including avoidance of inductive interference associated with the [wind energy] project." In 2005, the Legislature next instituted permitting requirements for "wind energy facilities" capable of generating at least 100 megawatts of electricity by amending the existing energy conversion and transmission permitting laws in existence since 1977.<sup>9</sup> As part of the permitting process, the Public Utilities Commission (PUC) requires bonds, guarantees, insurance, and "other requirements" (which, as of 2009, includes environmental impact statements) from applicants to provide funding for the decommissioning and removal of the wind energy facility.<sup>10</sup>

Permits for a wind energy facility generating less than 100 megawatts, as well as any private wind energy facility that generates electricity for private use, are granted at the discretion of the county in which the facility is located. The county exercises this authority through its planning and zoning authority in SDCL Chapter 11-2. Specific requirements for county-required permits vary by each county,<sup>11</sup> and some counties do not have any permit requirements. Regulations may include minimum set-back requirements, air space restrictions, and mitigation measures to preserve surrounding land. Although a facility that generates less than 100 megawatts is not subject to the PUC's siting requirements, the Legislature now requires a wind energy project with a combined capacity of over five megawatts to

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<sup>7</sup> The findings, as well as all documents and presentations received by the task force are available through the LRC website. Follow "Interim" hyperlink, then follow "Archived Interims" hyperlink, then follow "Committees" hyperlink for 2001.

<sup>8</sup> See 2003 S.D. SESS. LAWS, Ch. 239.

<sup>9</sup> See 2005 S.D. SESS. LAWS, Ch. 250.

<sup>10</sup> For more information on the PUC's siting process, see INFORMATION GUIDE TO SITING ENERGY CONVERSION AND ELECTRIC TRANSMISSION FACILITIES, available at <http://www.puc.sd.gov/commission/Publication/sitinghandout.pdf>.

<sup>11</sup> See, e.g., Walworth County Zoning Ordinance #2017-1, available at <http://walworthco.org/wp-content/uploads/2010/07/Walworth-Co-Zoning-Ordinance-051017-Adopted.pdf>.



provide notification to the PUC.<sup>12</sup> Although the Legislature established the minimum set-backs for wind turbine towers in 2009, county regulations may require set-backs to be higher.<sup>13</sup>

To-date, 13 state-regulated wind energy facilities operate in South Dakota since the first one began operating in 2003. Other smaller wind energy facilities regulated at the county level also operate throughout the state. All together, an estimated 884 megawatts of wind energy is produced in South Dakota yearly. The PUC provides a listing of all current wind energy projects in South Dakota on its website.<sup>14</sup>

### **South Dakota Energy Task Force and South Dakota Energy Infrastructure Authority**

Governor Mike Rounds created the South Dakota Energy Task Force in 2004 with the goal of examining both traditional and renewable energy resources available in South Dakota. In 2005, the Legislature passed HB1260, which created the South Dakota Energy Infrastructure Authority (SDEIA), modeled after the Wyoming Infrastructure Authority, with the goal of “diversify[ing] and expand[ing] the state’s economy” by developing energy production facilities and energy transmission facilities necessary to “produce and transport energy to markets within the state and outside of the state.”<sup>15</sup> The SDEIA was ultimately repealed in 2015,<sup>16</sup> but not before these two entities with similar objectives published a comprehensive report on the potential for wind energy development in the state.<sup>17</sup> The Joint Report of the S.D. Energy Infrastructure Authority and S.D. Energy Task Force (Joint Report) provides a far more

comprehensive discussion of wind energy resources and the challenges of wind energy development than can be accomplished in this Issue Memorandum.

The Joint Report also provides several policy recommendations related to wind energy development, including tax credits, a more competitive tax structure, development of new transmission capacity and wind energy storage technologies, as well as the passage of the Midwest Renewable Energy Tracking System (M-RETS) legislation, which the Legislature passed in 2006.<sup>18</sup> This new credit allows the PUC to establish a system of “renewable energy credits for electricity generated from renewable electricity or recycled energy.”

The SDEIA next published its own South Dakota Wind Power Report in 2007, addressing the challenges of wind energy development<sup>19</sup> This report provides a detailed discussion of wind turbine operation, wind resource availability in South Dakota, economic challenges to wind energy development, and an overview of the national electrical transmission grid. In contrast to the Joint Report, the Wind Power Report does not provide any policy recommendations, but instead focuses on “provid[ing] information and identify[ing] issues which will promote efficient decision making.”

### **Wind Energy Facility Taxation**

In 2008, the Legislature enacted new alternative taxes on “wind farm collector systems” that produce over 5,000 kilowatts of electricity.<sup>20</sup> Under the new tax law, owners of real or personal property used in wind power production pay an annual tax of three dollars multiplied by the nameplate capacity

<sup>12</sup> See 2009 S.D. SESS. LAWS, Ch. 246.

<sup>13</sup> See 2009 S.D. SESS. LAWS, Ch. 221.

<sup>14</sup> See South Dakota Wind Energy Projects, available at <http://www.puc.sd.gov/energy/Wind/project.aspx>.

<sup>15</sup> See HB1260 (2005).

<sup>16</sup> See 2015 S.D. SESS. LAWS, Ch. 7.

<sup>17</sup> See JOINT REPORT OF THE SOUTH DAKOTA ENERGY INFRASTRUCTURE AUTHORITY AND SOUTH DAKOTA ENERGY TASK FORCE 3, available at <http://www.sdeia.com/PDF/SDEIARepor.pdf>.

<sup>18</sup> See 2006 S.D. SESS. LAWS, Ch. 241.

<sup>19</sup> See SOUTH DAKOTA WIND POWER REPORT, available at <http://www.sdeia.com/PDF/2007WindEnergyReport.pdf>.

<sup>20</sup> See 2008 S.D. SESS. LAWS, Ch. 49.



(number of kilowatts produced) of the wind power facility as well as an annual tax of 2% on the gross receipts of the facility. In 2015, the 2% gross receipts tax was replaced by an annual tax of \$0.00065 per kilowatt hour of electricity produced by a wind farm for the first time between July 1, 2007 and April 1, 2015.<sup>21</sup> A wind farm producing electricity for the first time on or after March 31, 2015, is charged an annual tax of \$0.00045 per kilowatt hour.<sup>22</sup>

Under the law as originally enacted, the proceeds of the taxes were directed to the county where the wind power facility was located, but in 2013 this distribution formula was altered to direct 50% of the proceeds to the school district where the wind tower is located.<sup>23</sup>

Under the 2008 enactment, wind power facilities producing under 5,000 kilowatts were taxed “in the same manner as other real property.” This provision was repealed in 2010 and replaced with a new requirement that “renewable energy facilities” with less than five megawatts of power-generating capacity are assessed and taxed the same as other real property.<sup>24</sup>

At the federal level, in 1992 Congress instituted the Renewable Electricity Production Tax Credit, which applies to all wind facilities commencing construction by December 31, 2019.<sup>25</sup> This program provides for a per-kilowatt-hour tax credit for electricity generated and sold to an unrelated person for the first ten years of the facility’s service life. The amount of the tax credit is adjusted for inflation and is published by the Internal Revenue Service on April 1<sup>st</sup> of each year. Congress amended the tax credit in 2015 to require a reduction in the credit by 20% for

wind facilities commencing construction in 2017; by 40% for those commencing construction in 2018; and by 60% for those commencing construction in 2019.

### Issue Memorandum #2010-04

The Legislative Research Council published its second issue memorandum on wind energy in 2010.<sup>26</sup> This issue memorandum provides an overview of various developments in wind energy as well as on-going wind energy projects in South Dakota (now outdated). After providing a comparison of states on wind power capability, the memorandum discusses incentives for the development of wind energy implemented by various states. The issue memorandum also discusses the same challenges involving property rights and electrical transmission issues analyzed in previous reports.

### Wind Energy Competitive Advisory Task Force

The Legislature created the Wind Energy Competitive Advisory Task Force during the 2011 interim.<sup>27</sup> This task force was charged with reviewing South Dakota’s wind energy taxes and incentives, and with making recommendations “as to the proper mechanisms to tax wind energy and compete with surrounding states for the construction and maintenance of wind energy installations.”<sup>28</sup> During its meetings, the task force heard and received presentations from several wind energy experts on the process of permitting for wind energy facilities, sales and excise tax comparisons among neighboring states, and assessments on wind-produced electrical transmission. The task force ultimately concluded

<sup>21</sup> See 2015 S.D. SESS. LAWS, Ch. 66.

<sup>22</sup> See 2016 S.D. SESS. LAWS, Ch. 61.

<sup>23</sup> See 2013 S.D. SESS. LAWS, Ch. 52.

<sup>24</sup> See 2010 S.D. SESS. LAWS, Ch. 47.

<sup>25</sup> See Renewable Electricity Production Tax Credit Program Information, U.S. Dept. of Energy, available at <https://www.energy.gov/savings/renewable-electricity-production-tax-credit-ptc>.

<sup>26</sup> Available at <http://sdlegislature.gov/docs/referencematerials/IssueMemos/IM10-04.pdf>.

<sup>27</sup> The findings, as well as all documents and presentations received by the task force are available through the LRC website. Follow “Interim” hyperlink, then follow “Archived Interims” hyperlink, then follow “Committees” hyperlink for 2011.

<sup>28</sup> See 2011 S.D. SESS. LAWS, Ch. 15.



South Dakota's total tax burden is materially higher than its neighbors under the current system and even higher after the rebates expire for sales/use and contractors excise tax.

### Cost of Electricity

Various factors impact the overall cost of electricity to the consumer. Those factors include the cost to build, finance, maintain, and operate power plants and the electricity grid itself.<sup>29</sup> Other factors impacting the consumer's cost of electricity include the time of year during which electricity consumption occurs, regional considerations, consumer needs, and state and local regulations.

Given the smallness of its population, South Dakota ranks 45<sup>th</sup> in the nation for total electricity

consumption. However, because the state has energy-intensive industries and a climate that provides extreme temperatures in both the winter and the summer, the per capita energy consumption of South Dakota's population is well above the national average at 8<sup>th</sup> in the nation.<sup>30</sup>

The cost to supply electricity varies by the minute, so consumers are charged an average price based on seasonal costs to produce electricity so they are not subject to daily price fluctuations.<sup>31</sup> The average cost of electricity for residential consumers in the country is estimated to be approximately 10.41 cents per kilowatt hour, however the average cost to residential consumers in South Dakota is 9.83 cents per kilowatt hour.<sup>32</sup>

### Conclusion

Although the subject of wind energy has been studied on multiple occasions, and at great depth, several pragmatic challenges inhibit development of wind energy in South Dakota. Those challenges include limited capacity for electrical transmission out-of-state, limited in-state markets for wind energy, and some commonly contentious relationships between wind energy facilities and surrounding property owners.

This issue memorandum was written by Wenzel J. Cummings, Senior Legislative Attorney, on August 27, 2018, for the Legislative Research Council. It is designed to provide background information on the subject and is not a policy statement made by the Legislative Research Council.

<sup>29</sup> See Electricity Explained: Factors Affecting Electricity Prices – Basics, U.S. Energy Information Administration, U.S. Department of Energy, available at [https://www.eia.gov/energyexplained/index.php?page=electricity\\_factors\\_affecting\\_prices](https://www.eia.gov/energyexplained/index.php?page=electricity_factors_affecting_prices) (last updated May 17, 2018).

<sup>30</sup> See South Dakota State Energy Profile, U.S. Energy Information Administration, U.S. Department of Energy, available at <https://www.eia.gov/state/data.php?sid=SD> (last updated August 16, 2018).

<sup>31</sup> See Electricity Explained *supra* note 29.

<sup>32</sup> See State Electricity Profiles, U.S. Energy Information Administration, U.S. Department of Energy, available at <https://www.eia.gov/electricity/state/> (data for 2016) (released January 25, 2018).

