

Appendix B

Badger Wind, LLC's Ten-Year Plan

Badger Wind, LLC
February 2024

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TEN YEAR PLAN: 2024-2034

Badger Wind, LLC

February 14, 2024

In accordance with N.D.C.C. § 49-22-04 and N.D.A.C. Ch. 69-06-02, Badger Wind, LLC (“Badger Wind”), submits the following Ten Year Plan for years 2024 through 2034.

(1) A description of the general location, size, and type of all facilities to be owned or operated by the utility during the ensuing ten years, as well as those facilities to be removed from service during the ten-year period.

Badger Wind is a Delaware limited liability company, authorized to do business in the State of North Dakota. Badger Wind is developing a wind energy conversion facility known as the Badger Wind Project (the “Project”) located in western Logan and McIntosh Counties, North Dakota. On May 11, 2022, Logan County issued a Conditional Use Permit (“CUP”) for the Project. On November 30, 2022, The North Dakota Public Service Commission (“Commission”) issued Findings of Fact, Conclusions of Law and Order (“Order”) granting Certificate of Site Compatibility (“CSC”) No. 64 to Badger Wind for the Project (*see* Case No. PU-22-086). Since then, Badger Wind has made updates to the Project, which include expanding the Project boundary and design modifications. The Project will have a nameplate capacity of up to 262.26 megawatts (“MW”), with up to 250 MW delivered to the grid. Badger Wind submitted a new CUP application to Logan County in December 2023 and anticipates submitting an application to amend the CSC to the Commission in the first quarter of 2024. McIntosh County has not enacted a zoning ordinance, so a zoning permit from McIntosh County is not required for the Project. Badger Wind is filing this updated Ten Year Plan to reflect the expanded Project area and modifications to the Project design.

The Project will interconnect to the grid via a short (less than one mile in length) 230 kilovolt (“kV”) generation interconnection tie line extending from the Project’s collector substation to the point of interconnection, the Midwest Independent System Operator (“MISO”) system at Montana-Dakota Utilities Company’s (“MDU”) existing Wishek Junction 230 kV substation located in McIntosh County, North Dakota. The generation interconnection line will be less than one mile long and, therefore, is not subject to the jurisdiction of the Commission as a “transmission facility.”

Other than the Project, Badger Wind does not have any transmission or generation facilities located in North Dakota. The Project will have an estimated life of greater than 10 years. As such, Badger Wind does not have any plans to decommission any transmission or generation facilities within the timeframe of this plan.

(2) An identification of the location of the tentative preferred site for all energy conversion facilities and the tentative location of all transmission facilities on which construction is intended to be commenced within the ensuing five years and such other information as may be required by the commission. The site and corridor identification shall be made in compliance with the criteria published by the commission pursuant to section 49-22-05.1.

As noted above, the Project footprint is located in McIntosh and Logan Counties, North Dakota, approximately two miles from Wishek, North Dakota. Badger Wind proposes to have the Project in-service as early as 2025 or by 2026. The Project will interconnect at MDU's Wishek Junction substation located in McIntosh County, North Dakota.

The location of the Project complies with the Commission's siting criteria, including the exclusion and avoidance area criteria referenced in N.D.C.C. § 49-22-05.1 and identified in N.D.A.C. Ch. 69-06-08. A map depicting the current Project area is attached as **Exhibit A**.

(3) A description of the efforts by the utility to coordinate the plan with other utilities to provide a coordinated regional plan for meeting the utility needs of the region.

Badger Wind is in the process of identifying an offtaker for the Project's output. Energy produced by the Project may help local or regional utilities to meet applicable renewable energy needs. Additionally, Badger Wind has executed a Generation Interconnection Agreement with MISO for the interconnection of the Project at MDU's Wishek substation.

(4) A description of the efforts to involve environmental protection and land-use planning agencies in the planning process, as well as other efforts to identify and minimize environmental problems at the earliest possible stage in the planning process.

Badger Wind engaged the services of qualified environmental consulting firms to study and identify avoidance and exclusion areas within the Project site, in accordance with N.D.C.C. Ch. 49-22 and N.D.A.C. Ch. 69-06-08. As discussed above, Logan County issued a CUP for the Project on May 11, 2022, and the Commission issued CSC No. 64 for the Project on November 30, 2022 (*see* Case No PU-22-086). As noted above, Badger Wind submitted a new CUP application to Logan County in December 2023 and anticipates submitting an application to amend the CSC to the Commission in the first quarter of 2024. Updates to the Project area and design will continue to comply with Commission's siting criteria.

Additionally, Badger Wind has consulted with applicable local, state, and federal agencies and entities in connection with siting and development of the Project, including the United States Fish and Wildlife Service, the Federal Aviation Administration, the North Dakota Game and Fish Department, the State Historical Society of North Dakota, McIntosh County, and Logan County. Badger Wind will continue to coordinate with agencies and entities, as appropriate, throughout the development, construction, and operation of the Project.

Additional information regarding Badger Wind's agency and entity contacts, and efforts to identify and minimize any potential environmental issues, is provided in Case No. PU-22-086.

(5) A statement of the projected demand for the service rendered by the utility for the ensuing ten years and the underlying assumptions for the projection, with that information being as geographically specific as possible, and a description of the manner and extent to which the utility will meet the projected demands.

As discussed above, Badger Wind is in the process of identifying an offtaker for the Project's output. Badger Wind is actively marketing the Project to a number of potential offtakers and may sell the power in the form of a power purchase agreement ("PPA"), directly on

the merchant market, or the Project could be sold and directly owned and operated by a utility. As an independent power producer, Badger Wind is able to bid into a variety of markets and contractual structures. The updates to the original Project footprint and layout significantly strengthen the underlying Project fundamentals by increasing the Project's net capacity factor, thereby strengthening Badger Wind's market position.

Utilities, commercial, and industrial customers seeking to diversify and build their energy generation portfolios are attracted to wind energy projects because of their ability to offer long-term contracts at a fixed and competitive price while simultaneously providing the associated environmental benefits to meet existing and future renewable energy procurement and sustainability goals and mandates. In North Dakota, excellent wind resources create high-capacity factor generation, reducing the cost/megawatt hour ("MWh"), and increasing the attractiveness of projects in the region. In general, renewable energy sources provide lower costs per megawatt hour than conventional sources.¹ Thus, the Project could help satisfy local, regional, or even national renewable energy demands.

Locally, in 2021, the North Dakota Legislature enacted a statutory provision adopting a low-emission technology initiative, which establishes a goal that the "agricultural, forestry, natural resources, and working land of the United States should provide energy from low-emission technology and continue to produce safe, abundant, and affordable food, fuel, feed, and fiber."² As used in this initiative, low-emission technology includes, among others, wind. Additional renewable resources will be needed to meet the low-emission technology initiative.

Also, in 2010, the North Dakota Department of Commerce, EmPower ND Commission, published the Comprehensive State Energy Policy 2010-2025, which recommended a capacity of wind generation up to 5,000 MW by 2020.³ The state had a total of 4,302 MW of installed wind capacity at the end of 2020.⁴ With improving technology and falling costs, utilities are beginning to include renewable energy projects in their resource plans as long-term economic energy and capacity resources. As noted above, in North Dakota, excellent wind resources create high capacity factor generation, reducing the cost/MWh, and in general, alternative energy sources provide lower costs per MW-hour than conventional sources.⁵ Wind and solar costs have fallen 41 and 57 percent, respectively, over the last decade, making them the most

¹ Lazard, *Lazard's Levelized Cost of Energy Analysis – Version 16.0* (April 2023), at 2. Accessed online January 8, 2024. Retrieved from <https://www.lazard.com/media/typdggmm/lazards-lcoeplus-april-2023.pdf>.

² See N.D.C.C. § 17-01-01.

³ North Dakota Department of Commerce. Undated. EmPower North Dakota. Comprehensive State Energy Policy 2010-2025. Accessed online January 8, 2024. Retrieved from <https://www.commerce.nd.gov/sites/www/files/documents/ED%26F/Energy/empower%20state%20energy%20report.pdf>.

⁴ U.S. Department of Energy. 2023. Land-Based Wind Market Report. Accessed online December 28, 2023. Retrieved from <https://www.energy.gov/sites/default/files/2023-08/land-based-wind-market-report-2023-edition.pdf>.

⁵ Lazard, *Lazard's Levelized Cost of Energy Analysis – Version 16.0* (April 2023), at 2. Accessed online December 28, 2023. Retrieved from <https://www.lazard.com/media/typdggmm/lazards-lcoeplus-april-2023.pdf>.

affordable new electricity sources in most of the U.S.⁶ By the end of 2022, 27 states were generating at least 10 percent of electricity from wind, utility-scale solar, and small-scale solar.⁷

A need also exists for renewable energy produced in North Dakota to meet state renewable portfolio standards. Ten of the MISO states currently have either mandated or voluntary renewable portfolio standards or policies.⁸ Under current state standards, aggregate United States renewable portfolio standard demand more than doubles from 400 terawatt hours (“TWh”) in 2023 to 900 TWh in 2050.⁹ Given existing renewable energy capacity, roughly 300 TWh of additional clean electricity supply will be required by 2030 and 800 TWh by 2050.¹⁰ In addition, the regional transmission grid is being expanded to deliver wind generation in a cost-effective manner; specifically, MISO’s Multi-Value Project (“MVP”) Portfolio is expected to enable 41 million megawatt hours (“MWh”) of wind energy per year to meet renewable energy mandates and goals.¹¹

In addition to traditional utility demand for wind energy, a growing number of corporations are turning to renewable energy to save money on energy and meet sustainability goals. Corporate customers either purchase renewable energy directly or obtain renewable benefits and cost savings through financially settled contracts, sometimes called virtual PPAs. In addition, many utilities are creating “green tariffs,” which allow customers to purchase up to 100 percent renewable energy from the utility.¹²

Beyond the growing demand from utilities, corporations such as Apple, Google and Facebook, along with many others, have recently set goals to obtain 100 percent of their energy from renewables. These clean energy goals fuel the demand for corporate renewables procurement and subsequent PPAs. According to Wood Mackenzie’s report titled an “*Analysis of Commercial and Industrial Wind Energy Demand in the United States*,” the United States is “at the beginning stage of a corporate renewables procurement boom,” with approximately “85 gigawatts of renewable energy demand” from the “largest U.S. companies” alone through

⁶ American Clean Power, 2022 American Clean Power Annual Market Report (2022). Retrieved from https://cleanpower.org/wp-content/uploads/2023/05/2022-ACP-Annual-Report_Public.pdf (“2022 ACP Market Report”).

⁷ 2022 ACP Market Report.

⁸ U.S. Energy and Information Administration, Renewable energy explained, Portfolio standards (last updated November 30, 2022). Accessed online January 8, 2024. Retrieved from <https://www.eia.gov/energyexplained/renewable-sources/portfolio-standards.php>.

⁹ See Lawrence Berkeley National Laboratory, U.S. Renewable Portfolio Standards, 2023 Annual Status Report (June 2023), at 23. Retrieved from https://eta-publications.lbl.gov/sites/default/files/lbnl_rps_ces_status_report_2023_edition.pdf.

¹⁰ See Lawrence Berkeley National Laboratory, U.S. Renewable Portfolio Standards, 2023 Annual Status Report (June 2023), at 23.

¹¹ MTEP18 MISO Transmission Enhancement Plan, at 42. Accessed online January 12, 2024. Retrieved from <https://cdn.misoenergy.org/MTEP18%20Full%20Report264900.pdf>.

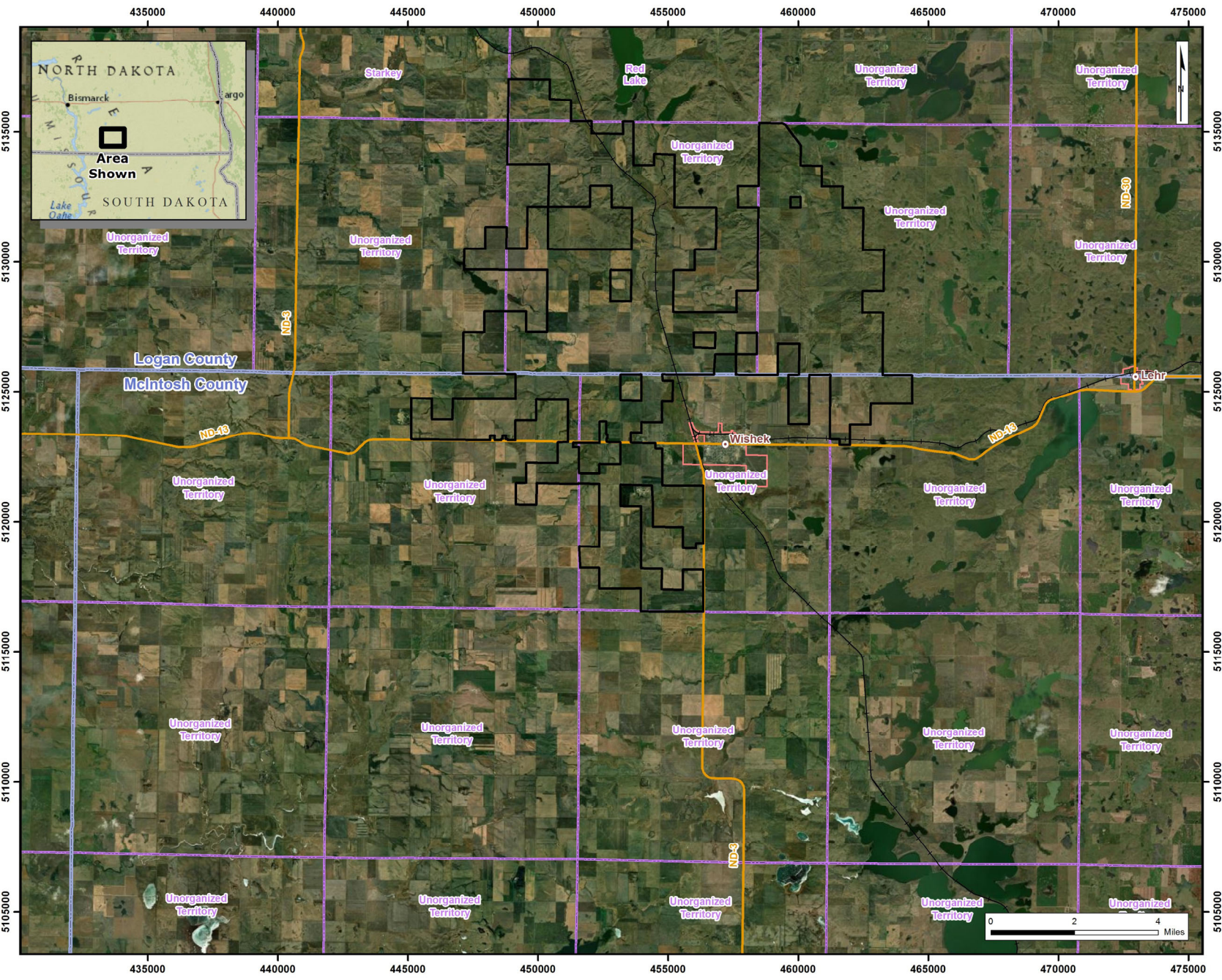
¹² U.S. Environmental Protection Agency – Green Power Partnership. Guide to Purchasing Green Power. Chapter 4. Retrieved from https://www.epa.gov/sites/default/files/2016-01/documents/purchasing_guide_for_web.pdf.

2030.¹³ Further, the buyers are not just large corporations; smaller companies are entering into aggregated purchasing models and further driving additional market expansion.¹⁴

In summary, the renewable energy produced by Badger Wind's Project will be positioned to help meet local renewable energy initiatives/goals, the regional need for renewable energy, and national C&I customer demand.

¹³ Wood Mackenzie, *Corporates usher in new wave of US wind and solar growth* (Aug. 20, 2019). Accessed online December 28, 2023. Retrieved from <https://www.woodmac.com/our-expertise/focus/Power--Renewables/corporates-usher-in-new-wave-of-u.s.-wind-and-solar-growth/>.

¹⁴ Emma Foehringer Merchant, *2018 Was Record Year for Corporate Clean Energy Contracts* (Jan. 31, 2019). Accessed online December 28, 2023. Retrieved from <https://www.greentechmedia.com/articles/read/reports-confirm-a-record-year-for-corporate-clean-energy-contracts#gs.nxat51>.



Legend

- Project Area
- State Road
- Railroad
- City/Village
- Township
- County



Badger Wind, LLC

Exhibit A:
PROJECT AREA
- Wind Energy Facility -
Logan and McIntosh Counties, ND

10455420-240118-PV
January 18, 2024
Projection: NAD83 UTM14
Sources: ESRI, TIGER