Harmony Solar Project

Appendix A

Ten Year Plan

TEN YEAR PLAN: 2024-2034
Harmony Solar ND, LLC

June 2024

In accordance with N.D.C.C. § 49-22-04 and N.D.A.C. Ch. 69-06-02, Harmony Solar ND, LLC ("Harmony Solar"), 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.

Harmony Solar is proposing to develop and construct an up to 200 MW solar energy conversion facility known as the Harmony Solar Project ("Project"). The Project will be located 15 miles west of Fargo in Cass County, North Dakota. The Project will consist of solar arrays, inverters, access roads, an electrical collection system, an O&M building and a Project step-up substation. The Project will be fully enclosed within a safety fence.

On August 27, 2017, Harmony Township issued a Conditional Use Permit for the Project. On January 7, 2021, Harmony Township issued an extension to the Conditional Use Permit for the Project. On March 21, 2023, Harmony Township issued another extension to the Conditional Use Permit for the Project.

On February 26, 2019, the North Dakota Public Service Commission ("Commission") issued Findings of Fact, Conclusions of Law and Order granting Certificate of Site Compatibility No. 58 to Harmony Solar for the Project (*see* Case No. PU-18-219). Harmony Solar plans to submit a certification of continuing suitability to the Commission in Q3 2024. Harmony Solar plans to begin construction as early as Q2 2025 and to have the Project commercially operational as early as Q4 2026.

Other than the proposed Project, Harmony Solar 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, Harmony Solar 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 electric energy conversion facilities and the tentative location of all electric 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, Harmony Solar is developing the above-referenced Project, and proposes to have the Project in-service as early as Q4 2026. The proposed Project will be located west of Fargo, North Dakota approximately four miles northeast of Casselton in eastern Cass County. As set forth in the Commission's Order (referenced above), 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. Section 69-06-08-01. A map depicting the Project's designated site is attached as **Exhibit A**, and additional detail regarding the site is provided in Case No. PU-18-219.

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

Harmony Solar 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.

Throughout the development of the Project, Harmony Solar has engaged and will continue to engage and coordinate with the Midcontinent Independent Transmission System Operator ("MISO"), the local transmission owner, Xcel Energy, and the local electrical cooperatives regarding the Project. Harmony Solar is in the process of finalizing a Generator Interconnection Agreement with MISO and Xcel Energy.

(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.

Harmony Solar utilized internal environmental experts, as well as qualified external environmental consultants, 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. Section 69-06-08-01. As set forth in the Commission's Order (referenced above), 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. Section 69-06-08-01. As discussed above, Harmony Township issued an extension of the Conditional Use Permit for the Project on March 21, 2023.

Additionally, throughout Project development, Harmony Solar has consulted with applicable local, state, and federal agencies and entities, and will continue to do so, as appropriate.

(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, Harmony Solar is in the process of identifying an offtaker for the Project's output. Harmony Solar is actively marketing the project to a number of potential off-takers and may sell the power in the form of a power purchase agreement ("PPA"), or the Project could be owned directly by a utility. Harmony Solar is proposing to construct this facility to sell energy, capacity and renewable energy credits ("RECs"), either bundled or unbundled, to one or more electric utilities and/or commercial customers. As an independent power producer, Harmony Solar is able to bid into a variety of markets. Utilities and other customers seeking to diversify and build their energy generation portfolios are attracted to solar energy projects because of their ability to offer high capacity value and 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 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, solar. Additional renewable resources will be needed to meet the low-emission technology initiative.

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.[3] 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.[4] Given existing renewable energy capacity, roughly 300 TWh of additional clean electricity supply will be required by 2030 and 800 TWh by 2050.[5] In addition, the regional transmission grid is being expanded to deliver renewable energy generation in a cost-effective manner.[6] North Dakota's available land and good insolation, along with newly constructed transmission lines, create an ideal environment for solar energy projects to meet regional renewable and solar standards or policies.

With improving technology and falling costs, utilities are beginning to include solar projects in their resource plans as long-term economic energy and capacity resources. In North Dakota, peak solar generation has a high correlation with the MISO's coincident peak, which determines the reserve margins MISO utilities must maintain for reliability and reserve sharing purposes. Recent solar pricing has shown that utility scale solar provides electricity during daylight hours at a cost per MW-hour on par, or less than, many gas-fired electric generators. New solar energy facilities are less expensive to construct than new conventional energy sources,

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[1] Lazard, *Lazard's Levelized Cost of Energy Analysis – Version 16.0* (April 2023), at 2. Accessed online May 28, 2024. Retrieved from https://www.lazard.com/media/typdgxmm/lazards-lcoeplus-april-2023.pdf.

[2] *See* N.D.C.C. § 17-01-01.

[3] U.S. Energy and Information Administration, *Renewable energy explained, Portfolio standards* (last updated November 30, 2022). Accessed online May 24, 2024. Retrieved from https://www.eia.gov/energyexplained/renewable-sources/portfolio-standards.php.

[4] *See* Lawrence Berkeley National Laboratory, U.S. Renewable Portfolio Standards, *2023 Annual Status Report* (June 2023), at 23. Accessed online May 24, 2024. Retrieved from https://eta-publications.lbl.gov/sites/default/files/lbnl_rps_ces_status_report_2023_edition.pdf.

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

[6] MTEP 18 MISO Transmission Enhancement Plan, at 42. Accessed online May 24, 2024. Retrieved from https://cdn.misoenergy.org/MTEP18%20Full%20Report264900.pdf.

even without government subsidies.[7] In general, renewable energy sources provide lower costs per megawatt hour than conventional sources.[8]

In addition to traditional local and regional utility demand for solar 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.[9]

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 2030.[10]

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

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[7] Lazard, *Lazard's Levelized Cost of Energy Analysis – Version 16.0* (April 2023), at 6. Accessed online May 24, 2024. Retrieved from https://www.lazard.com/media/typdgxmm/lazards-lcoeplus-april-2023.pdf.

[8] Lazard, *Lazard's Levelized Cost of Energy Analysis – Version 16.0* (April 2023), at 2. Accessed online May 24, 2024. Retrieved from https://www.lazard.com/media/typdgxmm/lazards-lcoeplus-april-2023.pdf.

[9] U.S. Environmental Protection Agency – Green Power Partnership. Guide to Purchasing Green Power. Chapter 4 at 4-5. Accessed online May 24, 2024. Retrieved from https://www.epa.gov/sites/default/files/2016-01/documents/purchasing_guide_for_web.pdf.

[10] Michelle Froese, *Corporates usher in new wave of US wind and solar growth* (Aug. 27, 2019). Accessed online May 24, 2024. Retrieved from https://www.windpowerengineering.com/corporations-usher-in-new-wave-of-u-s-wind-and-solar-growth/.