

SECTION 28 TANGIBLE BENEFITS

The Applicant will provide tangible benefits as set forth in 35-A M.R.S. Section 3454 and 06-096 CMR 382(6) to both the State and the host community of Moscow, Maine.

A. Employment

The Project will have a significant impact on employment in the State. During development of the Project, the Applicant has hired many consultants, contractors, and field crews that are based in Maine. Specifically, the Applicant used Maine-based companies for wetland and vernal pool delineations, wildlife surveys, soil work, visual impact assessment, archaeological surveys, real estate surveying, electrical engineering, and legal counsel. The Applicant is committed to hiring local workers whenever possible and will endeavor to hire area contractors to construct the Project. During construction, there will be job opportunities for activities such as tree clearing, excavation, road construction, concrete work, and electrical work. On average, the Project would employ approximately 40 to 50 construction workers for 5–6 months and up to 75 workers during peak construction times. After construction is complete, the Project will employ a maintenance staff of up to five full-time workers. There also will be a need for ongoing road maintenance, electrical, and landscaping services from local area contractors.

B. Annual Electricity Generation

The Project will generate approximately 160,000 MW hours of electricity each year – enough electricity to power approximately 25,000 Maine homes.

C. Property Tax Benefits

The Project is expected to be assessed at approximately \$60 million when it becomes operational. This significant investment in the local community will increase the total assessment of the Town by roughly 60 percent. The Project value is expected to depreciate each year, which will slowly reduce its tax contribution to the Town over the life of the Project, but it will be the largest taxpayer in the Town for many years.

D. Evidence of Power Purchase Agreement

The Applicant is currently pursuing various options for long-term power purchase agreements with several New England load-serving entities, including responding to the Maine Public Utilities Commission's recent Request for Proposals for the Sale of Energy or Renewable Energy Credits from Qualifying Renewable Resources. Over the past several years, large commercial and institutional buyers have expressed more interest in purchasing renewable energy directly from producers to help mitigate climate change, and early discussions with several commercial power brokers have been promising. In addition, Patriot has successfully negotiated traditional utility offtake agreements for all of its northeast wind projects, and the Applicant has a high degree of confidence that the Project will be an attractive renewable energy option for commercial or utility buyers in today's renewable energy market.

E. Effect on Electrical Rates for Residents of Maine

In contrast to the price volatility of electricity from natural gas generators, renewable resources provide a stable cost of electric generation and provide a suitable structure for long-term, predictably priced contracts.²⁸ They provide price stability for utility customers and make renewable energy an attractive component of a utility's supply portfolio. Reducing the carbon footprint of electricity generation is a critical element of mitigating the worst effects

²⁸ U.S. Department of Energy. 2004. *White Paper*. June 2004.

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of climate change. As we continue to shift our generation sources from old, inefficient carbon-based power plants to clean, renewable energy plants; wind energy can help keep rates low for consumers.

In addition to their predictable price and energy independence benefits, wind (and solar) projects lower the average wholesale price of electricity regionally. Every day, all electricity generators in New England submit bids into a daily market to win the right to generate power. Because the market can produce more generation than is needed to meet consumer demand, the highest priced generators are not selected. All successful bidders each day receive the same price—the market clearing price—which is set by the highest winning bid. Coal and gas generators need to burn fuel to operate, so they must bid a price high enough to at least cover their fuel costs; otherwise, they will lose money every second they generate power. Wind turbines have free fuel (wind), so wind generators can typically bid lower than fossil-fuel based generators, thus lowering the market clearing price. Therefore, as more wind and solar energy enters the market, more high-cost generators will be unable to compete, resulting in lower market clearing prices for electricity. This trend has been evident for years.

F. Estimated Type and Amount of Local Purchases of Materials

Materials located close to the site will be used as much as possible, giving local stone quarries, cement producers, and construction material suppliers procurement opportunities. In addition, local businesses such as lodging, restaurants, gas stations, and retail stores will see increases in activity during construction. It is difficult to precisely estimate the impact on local businesses; however, they are not insignificant. An analysis of three early construction projects in Maine (Kibby, Mars Hill, and Stetson) prepared by the University of Southern Maine estimates the so-called “indirect” effects of food and lodging for those projects at approximately \$1.3 million.

G. Annual Post-Construction Reporting

Within 6 months of the conclusion of years 1, 5, 10, and 15 of Project operation, the Applicant will file a tangible benefits report with MDEP and the Town. This report will detail the economic and environmental benefits contributed by the Project to both the Town the State. The report will include information regarding payments made under the Community Benefit Fund (CBF), jobs created, taxes paid, an estimate of avoided emissions due to the Project’s operation, and any contributions the Applicant has made to local fundraising or public initiatives.

H. Any Other Tangible Benefits

A 60-MW project in the Town would provide enough emission-free renewable energy for the equivalent of approximately 25,000 Maine households each year.²⁹

Wind energy generation facilities use a pollution-free fuel that does not create ancillary pollution from extraction or transport of fuel or disposal of waste by-products – a benefit to the State and the surrounding regions. As stated by the Governor’s Task Force on Wind Development, “Two of the major, energy-related challenges that Maine is facing are the need to reduce greenhouse gas emissions and the need to increase the reliability of our electricity supply. Wind power holds great promise in helping meet each of these challenges.”³⁰ By incorporating renewable energy into Maine’s energy grid, it is possible to minimize the production of fossil fuel by-products such as sulfur dioxide, nitrogen oxide, carbon dioxide (one of the major contributors to global warming), and mercury, which currently poses a serious threat to aquatic wildlife. According to the Maine Center for Disease Control, “Generating energy from wind turbines means less energy generated from foreign oil and coal, both being major contributors to global

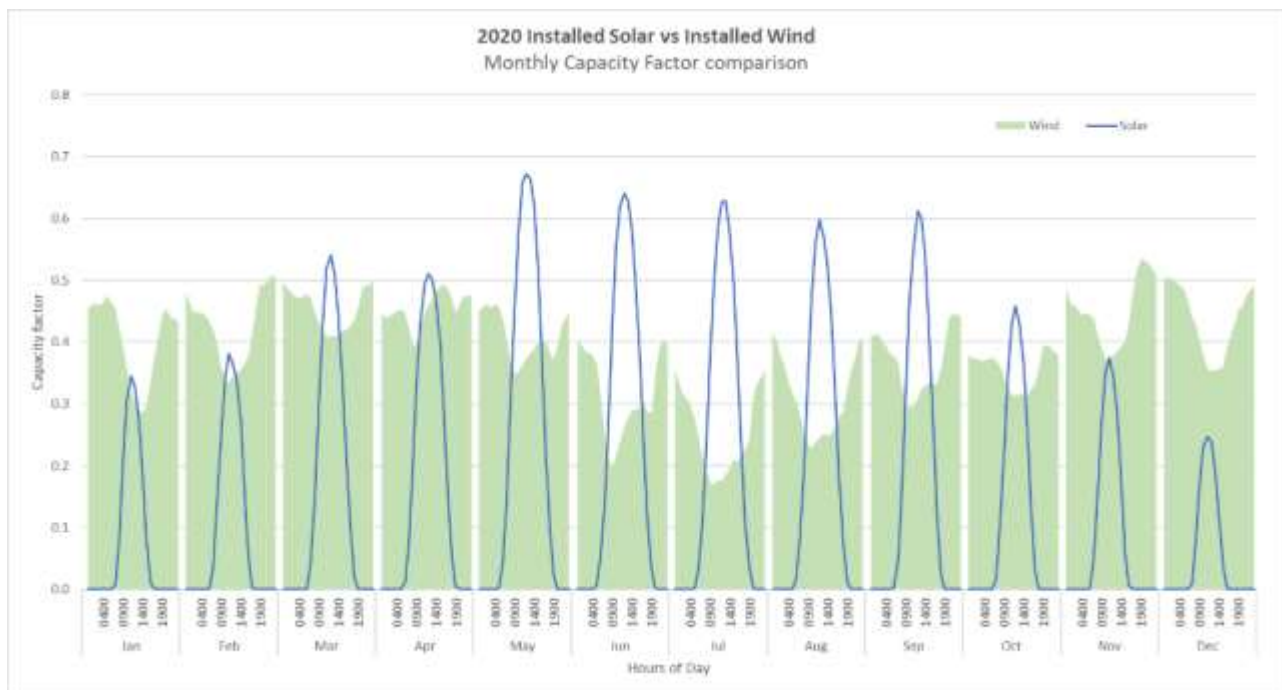
²⁹ Based on an annual electricity usage of 6,489 kilowatt hour per year, per Maine household.

³⁰ Maine Forest Service. 2008. Report of the Governor’s Task Force on Wind Development. Finding a Common Ground For a Common Purpose. February 2008. Available online at: http://ldc.mainelegislature.org/Open/Rpts/td195_w54m3_2008.pdf. Accessed May 10, 2021.

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warming, pollution, and resulting diseases and deaths due to heart disease, cancer, asthma, and other lung diseases. Maine’s highest-in-the-nation rates of asthma and cancer are thought to be at least partially due to pollution from our dependence on fossil fuels.”³¹

Importantly, wind energy complements the increasing profile of solar energy projects in Maine, which also are important in helping to reduce the overall carbon footprint of the grid. We cannot rely exclusively on solar energy as we seek to decarbonize our electricity grid, because when a power region has a disproportionate amount of solar energy, the grid develops periods of the day when low-cost solar energy supplies a significant percentage of the overall load; and other periods when customer load remains high after the sun sets or when clouds appear, and solar energy abates. In the northeast, wind power is more productive in the wintertime, when days are short and snow can cover solar panels; and wind turbines produce significant amounts of power in the evening and at night, when solar is offline. This complementary nature of wind and solar power helps to reduce the need for storage (e.g., batteries, pumped hydro, green hydrogen), and reduces the amount of natural gas generation we need to keep the grid operating. The complementary diurnal and seasonal nature of wind and solar can be seen in the following graph created from an analysis of recent Independent System Operator of New England performance data.³²



I. Community Benefit Fund

The Applicant will establish a CBF that would provide the Town with an annual funding source that could be used by the community without restrictions. The Applicant will fund at least \$4,000 per turbine, per year for the first 15 years of the Project, and at least \$6,000 per turbine per year from year 16 to the end of the Project; the size of this fund may increase subject to availability of Project resources. The CBF would be administered by the Town.

³¹ Mills, Dora Anne, MD, MPH Maine CDC/DHHS. 2011. Testimony of Dora Anne Mills, MD, MPH, FAAP, July 2011.

³² "Wind and Solar Time Series Modeling and 2020 Update – ISO New England, Inc."; Document No.: 10244263-HOU-T-01-C, 22 March 2021. Available online at: https://www.iso-ne.com/static-assets/documents/2021/04/2021_isonew_ver_dataset_2000_2020_rev0.zip.

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J. Conclusion

The Applicant has considered local benefits throughout the siting and development process to integrate regional and local needs into the proposed Project. The Project will provide a significant level of increased employment during construction, local tax benefits, a CBF, electricity price stability, downward pressure on wholesale spot market prices, and local and regional environmental benefits—all significant tangible benefits to the State and Town.