

FAQ

LONE PINE WIND FARM

Frequently Asked Questions / Fall 2023



Amherst Wind Farm / Nova Scotia

Project Design and Planning

1. Where is the Lone Pine Wind Farm located? How big is it?

The Lone Pine Wind Farm (the Project) will be constructed in Kneehill County, Alberta, approximately 15km west of Three Hills. The Project has applied to the Alberta Electricity System Operator (AESO) to connect a total of 466 MW of wind generation. We presently have 11,900 acres signed up for the first phase of the Project, which will have a nameplate capacity of approximately 350 MW, which will require approximately 50 to 60 wind turbines, enough electricity to power ~149,000 Alberta homes each year.

2. Where is the Project at in the approval process?

We are in the very early stages of seeking regulatory approvals from the Alberta Utilities Commission ("AUC") under AUC Rule 007. Prior to making an application to AUC next year, we will be completing a Participant Involvement Program ("PIP"). The first step includes public notification and holding the first of several public open houses in October 2023. In accordance with Rule 007, notification has been sent out to all residents, occupants, and landowners within 1500 meters from the edge of the Project boundary. Personal consultations will be conducted with all residents, occupants, and landowners within 800 meters from the edge of the Project boundary.

3. When is the Project being built?

Pending Project approval by the AUC, construction would commence in the Summer 2025 and take approximately 18 months to complete. The Project is targeting a commercial operation date of December 31, 2026.

Project Benefits

4. How much renewable energy will the Project generate?

The project is anticipated to produce nearly 1,300,000 megawatt hours per year which is enough electricity to power about 149,000 average Albertan homes annually.

5. How many jobs and economic development opportunities will the Project create?

More than 300 construction workers will be needed during the 1 to 2 years of construction for the Project. Construction materials such as concrete and gravel, steel, and wiring will be sourced locally, as much as possible. Over the life of the Project, roles will be needed such as a Site Manager, turbine technicians, administrative staff, and other support workers to operate and maintain the site.

6. What are the economic benefits of the Project to the Municipality?

More than \$100 million will be contributed to Kneehill County in the form of property taxes and millions more paid to the host and adjacent landowners who have contracts for lease with the Project. Capstone will also engage community members and organizations to develop a plan for providing ongoing support for community-led initiatives throughout the life of the Project.

Project Impacts

7. How will potential impacts to wildlife and wildlife habitat be assessed?

The government of Alberta, through the Environment and Protected Areas – Fish and Wildlife division (EPA-FWS), has laid out a detailed set of wildlife assessment protocols including spring, summer, and fall migratory surveys and habitat evaluations. Any project in Alberta must adhere to the guidelines from the EPA and demonstrate that the project will not pose unacceptable risks to wildlife and wildlife habitat.

For this project, all field surveys have been completed by third-party experts in the 2022 and 2023 field seasons and a submission of the project plan has been made to the EPA-FWS. The turbine sites have been located on agricultural fields and have been sited to comply with the EPA-FWS guidelines.


As part of the application to AUC, we must prepare an environmental evaluation that assesses potential effects, mitigation, and residual impacts/effects of the Project on wildlife and wildlife habitat. The Project has been sited in an agricultural area with low potential for environmental sensitivities, and we took care to avoid sensitive features when developing the preliminary layout for the Project to minimize potential adverse impacts.

9. How is noise assessed near the Wind Farm?

In accordance with Alberta Utilities Commission (AUC) Rule O12: Noise Control, the Project will need to comply with regulated noise levels. The Regulation stipulates that Permitted Sound levels at residences are no louder than 40dBA at night and 50dBA during the day.

The noise model needs to consider sound levels from varying sources such as existing oil and gas facilities and other generation facilities. As part of the application package to the AUC, Capstone is required to submit a noise impact assessment (NIA) detailing sound levels at receptors (residences) within 1.5 km of any Project infrastructure. The NIA will be carried out by a third party consultant and results will be shared with stakeholders upon completion.

Examples of common sound levels (dBA)



140	Threshold of pain
130	Jet take off
120	Rock concert
110	Jackhammer
100	Power saw
90	Street traffic
80	Doorbell
70	Office
60	Normal conversation
50	Quiet urban neighborhood, daytime
40	Quiet Office
30	Soft whisper
20	Ticking of a wrist watch
10	Rustling leaves

10. How is shadow flicker assessed near the Wind Farm?

When the sun is behind a turbine, and there is no cloud cover, rotating wind turbine blades may cast shadows that cross the landscape, called “Shadow Flicker”. A thorough shadow flicker assessment is required by the AUC Rule O07 and the results will be shared with local stakeholders as part of consultation process and available on the Project website. The assessment will be conducted by a third-party, who will model the shadow flicker effect around proposed turbine locations. The assessment will be accounted for in the Project design and submitted to the AUC in full.

Shadow flicker studies have shown that when turbines are over 1km away, or for homes that have topography undulations or trees surrounding it, the effects of shadow flicker lessen, so there are several potential mitigations available. The Project design will ensure nearby residences do not experience more than 30 hours of shadow flicker per year at a maximum.

11. Do wind farms affect property values?

Market research at a number of wind farms across Canada and the United States has shown that value of sales in and around wind farms are not materially affected by the presence of wind projects. In 2013, a comprehensive study in the United States assessed sales prices for some 50,000 property sales in 27 counties spread throughout 9 different states hosting wind projects. The research looked at pre and post construction sale prices and distance to turbines and concluded that there is no statistically meaningful effect of wind turbines on the sale price for homes or farms.

A recent study out of Ontario (Vyn & McCullough, 2014) detailed data on 5,414 rural residential sales and 1,590 farmland sales to estimate the impacts of a large scale wind farm on surrounding property values near Melancthon in southern Ontario. The study accounted for both proximity to turbines and turbine visibility and did not corroborate the concerns raised by residents regarding potential negative impacts of turbines on property values. The results of the models confirmed that these wind turbines have not significantly impacted nearby property values.

12. What happens at the end of the project's life? How will it be removed?

Once constructed, the turbines will operate for 30 to 40 years. After this time, there are two options for the Project: decommission or repower. As the wind does not deplete over time, and decades of operation prove the wind resource, projects may also end up being repowered.

In the event the Project can no longer operate, the equipment will be removed (decommissioned) and the lands will be put back to a similar land use to what was there prior to construction. The post-life decommissioning requirements are captured under contractual obligations with our host landowners, as well as through the provincial and municipal permitting processes. This includes the Alberta Environment and Protected Areas (EPA) "Conservation and Reclamation Directive for Renewable Energy Operations" (2018), which outlines an operator's obligation to reclaim specified land to equivalent capability, with guidance on land-use planning, footprint tracking, site assessments, reclamation criteria, and reclamation certificate applications. A reclamation certificate from EPA will be required to confirm remediation of the site and release Capstone from its obligations.

Additionally, Kneehill County has decommissioning security requirement for wind and solar projects as a condition to development permit approvals.

12. Does Capstone have the expertise and financial resources to build and operate the Project?

Capstone is a developer, owner, and long-term operator of 31 clean energy facilities in six provinces across Canada, with a total installed capacity of 824 MW. In Alberta, we've been operating our Whitecourt Power biomass generation facility since 2007 and added three more facilities to the fleet over the last couple of years: Claresholm Solar (132 MW), Kneehill Solar (25 MW), Michichi Solar (25 MW). Alberta is a major focus of our investment and growth - since 2018, Capstone has acquired and advanced more than 900 MW in new solar and wind development projects across the province, representing a total planned capital investment of more than \$800 million.

Get in touch with us

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About Capstone Infrastructure

Clean and renewable energy is our business, and our people are our greatest asset. We're here to drive the energy transition forward through creative thinking, strong partnerships, and a commitment to doing things right.

Capstone is a publicly traded, independent power producer headquartered in Toronto, Canada, focused on providing clean, renewable energy to homes and businesses across North America. We own and operate a diversified portfolio of 31 utility-scale renewable and clean power generation facilities with 824 MW of gross installed capacity and are actively developing a portfolio of clean power projects in Canada and the United States.

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