

Community Meeting

Please sign in at the front desk and provide your contact information if you would like to receive project updates.

We invite you to walk around and look at the displays.

If you have questions or comments, please ask one of our representatives.

Thank you for attending!

Power to Change THE FUTURE™



BluEarth Renewables

BluEarth Renewables brings together extraordinary people with the power to change the future[™] by delivering renewable energy to the power grid every day. Headquartered in Calgary, we are a leading Canadian-based power producer that develops, builds, owns and operates wind, hydro and solar facilities across North America. Our portfolio includes 325 MW net (565 MW gross) of nameplate capacity in operation and under construction and over 1,000 MW under development.

For more information, visit bluearth.ca

Our Portfolio





Background

Development work on the Hand Hills Wind Project has been underway since 2007.

BluEarth Renewables acquired the Hand Hills Wind Project from Joss Wind Power Inc. in the fall of 2012. On August 31, 2012 after several years of study, including wind resource analysis, environmental and heritage studies and assessments, public and agency consultation and turbine siting, the Hand Hills Wind Project received Alberta Utilities Commission (AUC) approval to construct and operate.

Since receiving the approval, BluEarth has been consulting with stakeholders, meeting with the involved municipalities and completing technical and environmental studies. In June 2017, we filed an amendment to our approved AUC application to update the wind turbine technology.

We plan to file an additional application with the AUC to update the Project so it is able to participate in the ongoing Renewable Electricity Program procurement process and other power purchase agreement opportunities.





Project Description

- Up to 130 MW wind facility enough energy to power up to 62,500 homes annually with clean, renewable power
- Up to 29, 4.5 MW turbines
- The Project will include a 34.5-kilovolt electrical collector system, fibre-optic cable, access roads, temporary construction roads, and an operations and maintenance building
- A new ATCO transmission line will connect the new Highland 572S substation to the Alberta electricity grid at Coyote Lake 963S substation, 17 km south of the Project
- If the project is successful in securing a power purchase agreement, we anticipate that construction would begin no earlier than the spring of 2020
- The Project is being developed by BER Hand Hills Wind LP, a subsidiary of BluEarth Renewables



Proposed layout



Project Application

To participate in the ongoing Renewable Electricity Program procurement process and other power purchase agreement opportunities, we are filing an additional application with the Alberta Utilities Commission (AUC) to update the project. The original project size of 78.2 MW has already been approved by the AUC.

The project application includes:

Updated wind turbine technology

• We are proposing the Siemens Gamesa 4.5 MW turbine for the Hand Hills Wind Project, which has a hub height of 107.5 meters and a rotor diameter of 145 meters.

Revised turbine layout and reduced number of turbines

• In the revised layout, wind turbine locations have been adjusted and there is a reduced number of project turbines.

Increased project capacity

• The project capacity would be increased from 78.2 MW to 130 MW, using the revised project layout, new turbine technology, and reduced number of turbines.

ltem	Previously Approved	Proposed Amendment
Turbine technology	Siemens Gamesa 2.3 MW	Siemens Gamesa 4.5 MW
Number of turbines	34	29
Project Capacity	78.2 MW	130 MW



Environmental Considerations

As a condition of the Alberta Utilities Commission (AUC) permit, and to update our knowledge of the environmental conditions at the site, we have consulted with Alberta Environment and Parks (AEP) and continue to conduct various environmental studies.

Studies already completed have assessed:

- Spring and Fall Bird Migration
- Spring and Fall Bat Migration
- Breeding Birds
- Nesting Raptors
- Sensitive Species (e.g., Sharp-tailed Grouse, Burrowing Owl and Amphibians)
- Wetlands
- Rare Plants
- Habitat Mapping

The AUC Power Plant application also consisted of:

- An Environmental Evaluation to outline the site conditions and potential Project impacts on the environment
- Environmental Protection Plan to provide mitigations to reduce potential environmental impacts



 Noise Impact Assessment to assess predicted noise levels at residences to ensure that the Project does not cause noise level limits to be exceeded

In 2019, we will conduct additional environmental surveys to assess nesting raptors, burrowing owls and rare plants. Results of these studies will be provided to AEP for their review and comment.



Sound

Wind energy projects must meet the detailed Alberta Utilities Commission (AUC) regulatory requirements for noise control

Detailed noise modeling is undertaken to ensure the AUC sound level requirements of 40 dBA (night time) are met at all residences. The noise modeling considers:

Common Noises

- Topography (hills and slopes)
- Ground cover (trees, water, grass)
- Existing noise sources

 (oil & gas infrastructure, highways)

Studies of the noise conditions within the Hand Hills Wind Project area were an important factor in selecting the final turbines for



the Project.

* Permissible Sound Level (PSL) includes sound contribution from ambient (i.e., background) noise, other regulated facilities (e.g., oil and gas infrastructure, power/utilities infrastructure), and any newly proposed regulated facilities (i.e., the Project). Nighttime PSL at receptors in rural environments is 40 dBA (AUC – Rule 012 Noise Control)



Community Benefits

The Hand Hills Wind Project will provide several benefits to the local community.

• Employment - Temporary jobs during construction (approximately 100,000 person hours) and permanent jobs associated with the operations and maintenance of the Project (4 to 5 full-time positions).

- New Investment In the form of local services and supplies such as infrastructure improvements, fuel, accommodation, meals and supplies for employees, construction personnel, and contractors who will spend time in the local communities.
- Landowners and Community Wind turbines are compatible with other land uses, such as farming, and can serve as a financial boost for rural economic development.
- Municipal Tax Revenues The Project will pay municipal taxes to the rural community and does not increase demand on municipal services or public works such as sewer and water upgrades.
- Clean Energy Wind energy provides societal benefits by offsetting harmful emissions such as carbon dioxide, oxides of nitrogen, and sulphur dioxides that are created through conventional, thermal power generation.
- Ongoing Community Investment Through the life-cycle of the Project, we will continue to invest in the local community through annual donations.



Project Schedule

Applications for Approval Submitted to AUC

Alberta Electric System Operator Contract Awarded

AUC & Municipal Development Permit Approvals

Project Financing

Equipment Procurement

Engineering

Project Construction

Expected Commercial Operation Date

If the Hand Hills Wind Project is successful in securing a contract, we anticipate that construction would begin no earlier than April 2020.





2020				
larch	April - June	July - Sept	Oct - Dec	



Alberta Climate Leadership Plan

Electricity generation is the second largest source of emissions in Alberta, responsible for 17%, or 45 mega-tonnes of greenhouse gas emissions in 2014. Coal fired generation represents 85% of total emissions from the electricity sector.

The Alberta government is currently looking for opportunities to reduce emissions. They have committed to increasing renewable energy generation to 30% by 2030 through investments in wind, solar and hydroelectric technologies.

BluEarth believes the Hand Hills Wind Project is well-suited to participate in the Renewable Electricity Program (REP) being led by the Alberta Electric System Operator (AESO). Development of the Project is being completed with the intention of securing a contract through this competitive program. The REP is a competitive process based on power price, so it will encourage competition among developers that will ultimately result in lower power prices from renewable energy projects.



Thank you for attending!

Please fill out a comment form and provide your feedback on the proposed

project changes.

If you would like to receive updates, please provide us with your name and contact information.

For more information on BluEarth Renewables and the project, visit:

bluearth.ca projects@bluearth.ca 1.844.214.2578





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